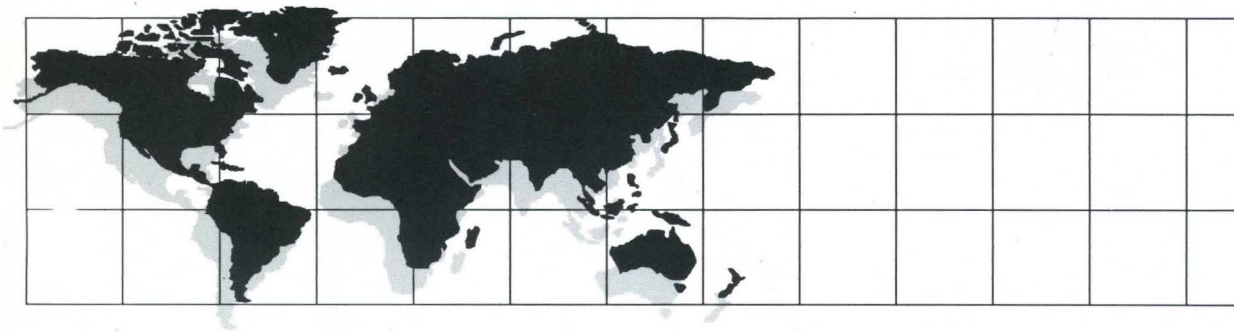

CTOS

OFIS® Spreadsheet
Training Guide

UNISYS

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CTOS®
OFIS® Spreadsheet
Training Guide

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5-18	Blank
6-1 through 6-17	Original
6-18	Blank
A-1 through A-4	Original
Glossary-1 through 10	Original
Index-1 through 4	Original

Contents

About This Guide xiii

Section 1: Overview of OFIS Spreadsheet

Basic Operations 1-1
Using the Mouse in the Exercises 1-2
How to Use the Mouse 1-2
OFIS Spreadsheet System Requirements 1-4

Section 2: Getting Started

Exercise 1: Installing OFIS Spreadsheet 2-2
Exercise 2: Starting OFIS Spreadsheet 2-3
Worksheet Area 2-5
Pop-Up Menu Display Area 2-7
Command Panel 2-8
Information Line 2-10
Function Key Display Line 2-11
Mouse Cursor and Mouse Icons 2-12
Exercise 3: Moving Around in the Worksheet Area 2-13
Part 1: Moving the Cell Pointer 2-13
Part 2: Paging and Scrolling Through the Worksheet 2-14
Part 3: Moving the Cell Pointer to a Specific Cell 2-16
Part 4: Returning to Cell a1 2-17
Part 5: Practice 2-17

Exercise 4: Using Pop-Up Menus 2-18
Displaying and Exiting the Pop-up Menu 2-18
Moving Around in the Pop-up Menu 2-20
Selecting Options From the Pop-up Menu 2-22
GO or RETURN Key and Mouse Methods 2-22
First-Letter Method 2-23
Exercise 5: Using the Help Function 2-24
Exercise 6: Exiting OFIS Spreadsheet 2-25
Summary 2-27

Section 3: Creating a Spreadsheet

Exercise 7: Entering Labels 3-1
Exercise 8: Saving Spreadsheet Data 3-9
Exercise 9: Entering Values 3-11
Exercise 10: Copying Data 3-13
Exercise 11: Editing Data 3-19
Exercise 12: Saving Spreadsheet Data While Exiting 3-23
Summary 3-24

Section 4: Performing Spreadsheet Calculations

Exercise 13: Retrieving a Stored Spreadsheet ... 4-1
Exercise 14: Creating and Copying Formulas 4-4
Creating a Formula 4-4
Copying a Formula 4-6
Creating and Copying a Formula 4-7
Exercise 15: Using OFIS Spreadsheet Functions . 4-9
Exercise 16: Calculating Net Income 4-13
Summary 4-15

Section 5: Formatting a Spreadsheet

Exercise 17: Inserting Blank Rows and Columns . 5-2
Exercise 18: Creating Lines to Separate Data 5-5
Exercise 19: Changing Value Formats 5-10
Exercise 20: Adjusting Column Widths 5-12
Exercise 21: Changing Label Alignment 5-14
Summary 5-17

Section 6: Printing and Graphics

Exercise 22: Printing Spreadsheet Data 6-2
Exercise 23: Creating Graphs to Illustrate Spreadsheet Data 6-5
Summary 6-17

Appendix A: Function Keys and Mouse Icons A-1

Dedicated Function Keys A-1
Variable Function Keys A-2
Mouse Icons A-4

Glossary Glossary-1

Index Index-1

Figures

2-1. The OFIS Spreadsheet Display 2-4
2-2. Worksheet Area 2-6
2-3. Pop-Up Menu Display Area 2-7
2-4. Command Panel 2-9
2-5. Information Line 2-10
2-6. Function Key Display Line 2-11
2-7. Mouse Icons and Mouse Cursor 2-12
2-8. Main Pop-Up Menu 2-19

3-1. Titled Spreadsheet 3-2
3-2. Spreadsheet with Row Labels 3-6
3-3. Spreadsheet with Column Labels 3-8
3-4. Spreadsheet with Some Values Entered 3-12
3-5. Sample Ranges 3-13
3-6. Spreadsheet with Copied Values 3-18
3-7. Spreadsheet with Edited Data 3-22

4-1 Spreadsheet Files Listing 4-3
4-2. Spreadsheet with Income Totals 4-8
4-3. Spreadsheet with Expense Totals 4-12
4-4. Spreadsheet with Net Income 4-14

5-1. Spreadsheet with Blank Row and Column 5-4
5-2. Spreadsheet with Double Lines 5-7
5-3. Spreadsheet with Single Lines 5-9
5-4. Spreadsheet with Asterisks 5-11
5-5. Spreadsheet with Currency Format and Expanded Column Width 5-13
5-6. Spreadsheet with Centered Labels 5-16

6-1. Spreadsheet Printout 6-4
6-2. Bar Graph 6-11
6-3. Line Graph 6-13
6-4. Pie Graph 6-14
6-5. Stacked Bar Graph 6-15

Tables

1-1. Mouse Button Functions 1-3

5-1. Label Prefix Characters 5-14

A-1. Dedicated Function Keys A-1
A-2. Variable Function Keys A-3
A-3. Mouse Icons A-4

About This Guide

CTOS OFIS Spreadsheet is an electronic spreadsheet program that allows you to chart, manipulate, and analyze information. This guide familiarizes you with some of the terminology used in OFIS Spreadsheet and contains training exercises for some of the basic OFIS Spreadsheet operations. For more detailed information, you can refer to the *CTOS OFIS Spreadsheet Reference Manual.*

Who Should Use This Guide

This training guide will help you learn OFIS Spreadsheet if you:

- Have never used an electronic spreadsheet before
- Have used an electronic spreadsheet before but have never used OFIS Spreadsheet

You will find OFIS Spreadsheet operations easier if you are somewhat familiar with the CTOS operating system. But whether or not you are an experienced CTOS user, you can use this book to learn OFIS Spreadsheet operations.

How to Use This Guide

This guide is divided into six sections containing training exercises and information. As you read the information in each section and perform the exercises, you progress from simple operations to more complex ones. It is important that you understand and successfully complete each exercise before you move on to the next one.

How This Guide Is Arranged

Section 1 contains a brief overview of OFIS Spreadsheet. Sections 2 through 6 contain training exercises in which you create a spreadsheet and learn how to use OFIS Spreadsheet's features.

Conventions

This guide uses the following conventions:

- The term *character* includes spaces you enter with the **SPACEBAR**.

The following items are printed in bold:

- Keyboard key names
- Function names
- Entries you type
- Cell addresses

The following items are printed in italics:

- New terms
- The names of fields and forms
- Volume, directory, and file names

Note that throughout this guide, figures are used to show you the displays that appear in OFIS Spreadsheet. These figures are examples only, not exact replicas of displayed text or screens. Your displays may differ from them in minor details.

Terminology

The following terms appear throughout this manual:

CTOS	Applies to the family of workstation and shared resource processor operating systems using the CTOS operating system
server	Describes the workstation or shared resource processor that controls resources within a cluster.
shared resource processor (SRP)	Describes the multiprocessor, floor-model computer that functions as a server and uses the CTOS operating system.
release documentation	Refers to the paper or electronic documents that accompany the distribution media and contain various information about OFIS Spreadsheet.

Reference Material

This guide contains one appendix, a glossary, and an index.

For a listing and definitions of OFIS Spreadsheet function keys and mouse icons, refer to Appendix A.

For definitions of unfamiliar terms, refer to the glossary.

Related Product Information

For additional infomormation about related products, you can refer to the following documentation:

For detailed information about using OFIS Spreadsheet, including installation and configuration, refer to the *CTOS OFIS Spreadsheet Reference Manual.*

For detailed information about configuring system software on workstations and shared resource processors, refer to the *CTOS System Administration Guide.*

For information on how to install, configure, and use Context Manager, refer to the *CTOS Context / Window Manager Installation and Configuration Guide Volume 1: Real Mode* and the *CTOS Context / Window Manager Installation and Configuration Guide Volume 2: Protected Mode.*

For information on the most commonly used CTOS Executive utilities and commands, refer to the *CTOS Executive User's Guide.* For detailed information about all the CTOS Executive commands, refer to the *CTOS Executive Reference Manual.*

For information on the CTOS Generic Print System (GPS), you can refer to the *CTOS Generic Print System Administration Guide.*

For information on CTOS OFIS Graphics, you can refer to the *CTOS OFIS Graphics Operations Guide.*

For information on configuring the chaining configuration file for use with BTOS OFIS Designer, you can refer to the *BTOS OFIS Designer Operations Guide, Volume 3: Advanced Operations.*

For information on configuring the chaining configuration file for use with *CTOS OFIS Document Designer*, you can refer to the *CTOS OFIS Document Designer / OFIS Document Writer System Administration Guide.*

Section 1
Overview of OFIS Spreadsheet

OFIS Spreadsheet is an electronic spreadsheet application that you can use for many functions from simple arithmetic to complex accounting and financial calculations to database management, and much more.

This section gives you a brief overview of OFIS Spreadsheet and its requirements before you begin the training exercises.

Basic Operations

The following is a list of some of the things you can do with OFIS Spreadsheet:

- Enter and format text and numbers
- Create formulas to calculate data
- Use predefined functions to calculate data
- Print spreadsheets
- Create graphs illustrating spreadsheet data
- Link data between spreadsheets
- Create and use database information
- Automate spreadsheet operations

The exercises in this guide teach you some of these operations. For more details on all of the features and operations, refer to the *CTOS OFIS Spreadsheet Reference Manual.*

Before you can begin the exercises, OFIS Spreadsheet must be installed on your system. Procedures for installing OFIS Spreadsheet are contained in the *CTOS OFIS Spreadsheet Reference Manual.* If you are not an experienced CTOS user, you may find it helpful to have your system administrator install OFIS Spreadsheet for you.

Using the Mouse in the Exercises

In many of the exercise steps, you have the choice of using the mouse or the keyboard to do the step. The exercises include instructions for both, in a step that looks like this:

Keyboard	Mouse
Keys you press	Actions you take with the mouse

You can use either method to do the step. Also, you can switch between using the keyboard and the mouse as you progess through an exercise; you do not have to use one method exclusively.

To use the mouse in OFIS Spreadsheet, the Mouse Service must be loaded on your system. For information on loading the Mouse Service, refer to the *CTOS Executive User's Guide.*

How to Use the Mouse

Your mouse has either two or three buttons on it. In OFIS Spreadsheet, the center button on a three-button mouse has no function. The left and right buttons control different functions, and those functions can be swapped from one button to another to accommodate left-handed users. By default, a mouse is set up for right-handed use (referred to as a *right-handed* mouse). For information on configuring your mouse for left-handed use, you can consult your system administrator or refer to the *CTOS System Administration Guide.*

When you are doing the exercises, unless a step explicitly directs you to press the CANCEL mouse button, you can assume that you must use the Selection button. Refer to Table 1-1 to see which button on your mouse is the Selection button and which is the CANCEL button.

Table 1-1. Mouse Button Functions

	Left Button	Right Button
Left-Handed Mouse	CANCEL button Functions like the CANCEL key; you click it to cancel a selection or backtrack through the pop-up menus	Selection button You click this button to indicate your choice.
Right-Handed Mouse	Selection button You click this button to indicate your choice.	CANCEL button Functions like the CANCEL key; you click it to cancel a selection or backtrack through the pop-up menus

You access different functions by a combination of moving the mouse and activating the mouse button. Moving the mouse on your desktop causes the *mouse cursor* on the screen to move. The mouse cursor is the small, rectangular object on the screen that moves when you move the mouse. Different areas of the screen give you access to different functions.

When you have moved the mouse cursor to the area of the screen that controls access to the function you want, you indicate your choice by *clicking* the mouse button, meaning that you press it and release it.

OFIS Spreadsheet System Requirements

Information related to OFIS Spreadsheet system requirements, installation procedures, and related topics are contained in the *CTOS OFIS Spreadsheet Reference Manual.* Among the topics included are:

- System requirements
- Disk and memory requirements
- Release levels of related and cooperating products
- Procedures for installing and configuring OFIS Spreadsheet
- Procedures for configuring cooperating applications for use with OFIS Spreadsheet

Section 2
Getting Started

This section begins the training exercises. To take full advantage of these exercises, you should complete them in the order they are presented. You do not have to do all the exercises in one sitting; however, you should try to complete the exercise you are working on and save your work before exiting OFIS Spreadsheet.

The exercises included in this section teach you how to do the following:

- Start OFIS Spreadsheet
- Move around in the worksheet area
- Display the pop-up menus
- Use the HELP function
- Exit OFIS Spreadsheet

Exercise 1: Installing OFIS Spreadsheet

Before you can begin the exercises, OFIS Spreadsheet must be installed on your system. Follow the procedures in the *CTOS OFIS Spreadsheet Reference Manual* for installing OFIS Spreadsheet. If you are not an experienced CTOS user, you may prefer to have your system administrator assist you or install OFIS Spreadsheet for you.

Exercise 2: Starting OFIS Spreadsheet

You are now ready to start OFIS Spreadsheet.

To start OFIS Spreadsheet from the Executive Command line, use the following procedure:

1. Type **OFIS Spreadsheet** on the Executive Command line.
2. Press **GO**.

   A blank spreadsheet displays (refer to Figure 2-1).

Note: *If your system is configured to to start OFIS Spreadsheet from Context Manager, you can start OFIS Spreadsheet by either:*

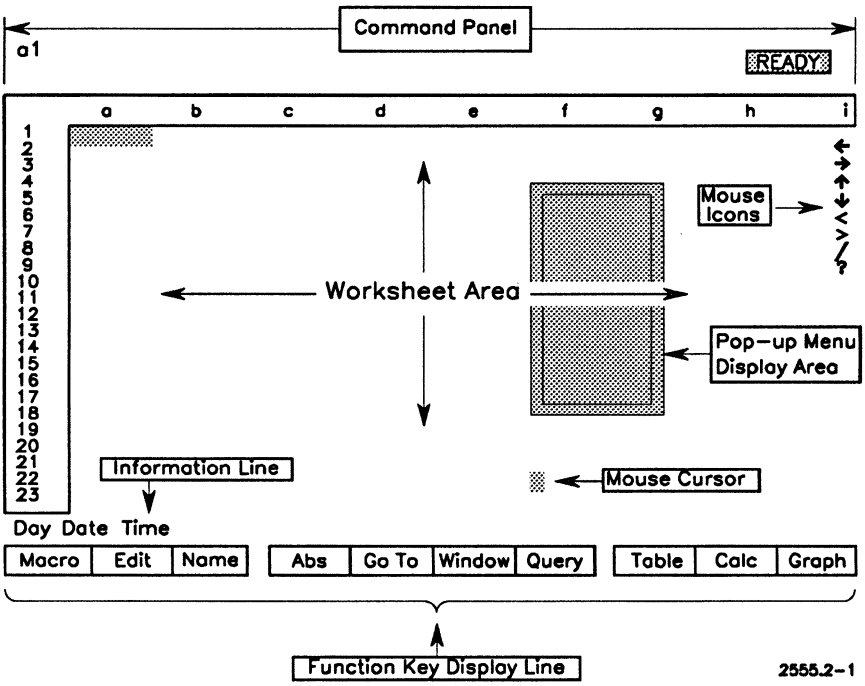
- *highlighting the OFIS Spreadsheet menu option and pressing **GO***
- *pressing the function key assigned to OFIS Spreadsheet and pressing **GO**.*

  (For more information, refer to the Context Manager documentation for your system.)

Figure 2-1 shows the following parts of the OFIS Spreadsheet screen:

- Worksheet area
- Pop-up menu display area
- Command panel
- Information line
- Function key display line
- Mouse Cursor and Mouse Icons

Figure 2-1. The OFIS Spreadsheet Display



Worksheet Area

The worksheet area is where you enter spreadsheet information (including text, numbers, formulas, and functions). Figure 2-2 points out the main parts of the worksheet area:

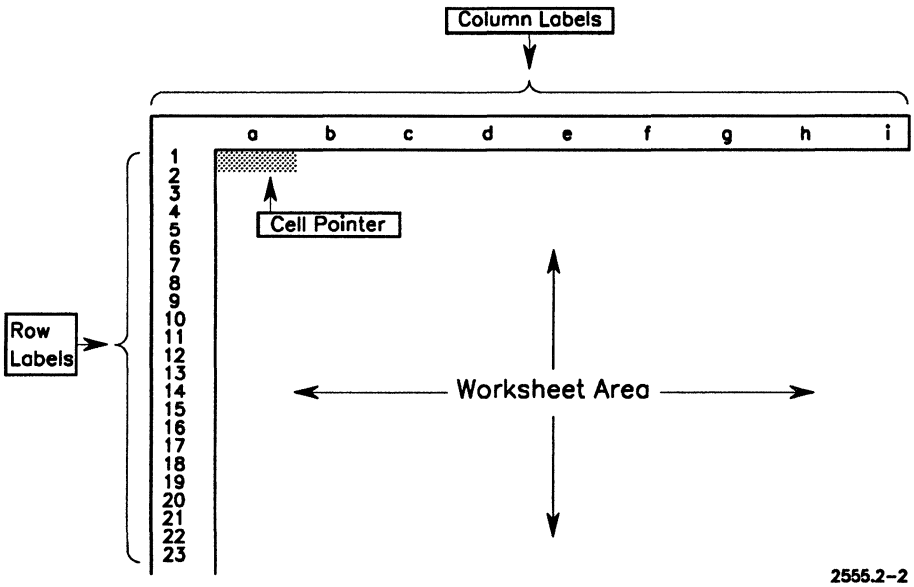
- Columns
- Rows
- Cell pointer

Each worksheet consists of a total of 8192 rows and 512 columns, although you can see only some of them on the screen at any one time. The columns are labeled with the letters **a** through **sr**, and the rows are labeled with the numbers **1** through **8192**.

The intersection of a column and row is known as a *cell*. The column letter and row number provide the cell address. This cell address tells you where you are in the spreadsheet (**a1** in Figure 2-2).

The upper left corner of the worksheet area contains a highlighted rectangular area. This is known as the *cell pointer*. It identifies the current cell. Whenever you enter data, it goes into the current cell.

Figure 2-2. Worksheet Area

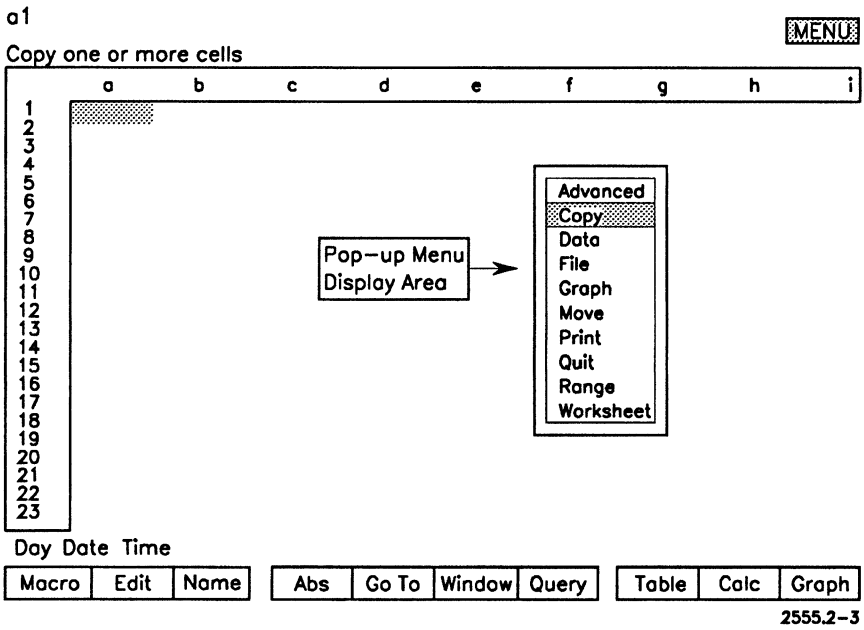


Pop-Up Menu Display Area

In OFIS Spreadsheet, you can use pop-up menus to manipulate worksheet information. A pop-up menu offers a list of options for you to choose from in order to perform a specific operation. There are several levels of pop-up menus, or submenus, each varying in size and content.

When you display a pop-up menu, it overlays a portion of the worksheet area, as illustrated in Figure 2-3.

Figure 2-3. Pop-Up Menu Display Area



Command Panel

The area at the top of the spreadsheet is called the command panel (refer to Figure 2-4). It displays the following information:

- The current cell address (in the upper left corner).
- The current cell content and any formatting pertaining to that cell.

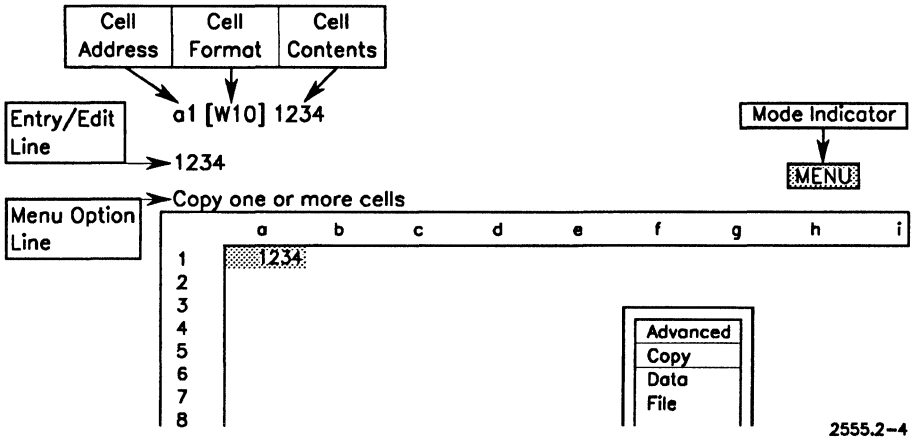
  When you open a blank spreadsheet, the cells are empty, so the only information that displays is the cell address.
- The mode indicator (in the upper right corner).

  When you first open a spreadsheet, this indicator displays the message READY, indicating that you can begin entering information.
- Entry or edit information.

  As you enter data, each character you enter appears on the second line. When you edit data from a cell, the cell content displays on this line, allowing you to make your changes.
- Menu options and prompts.

  When a pop-up menu is displayed, this line lists the highlighted option's corresponding submenu options. If there is no submenu, this line gives you information (prompts) about the highlighted option.

Figure 2-4. Command Panel

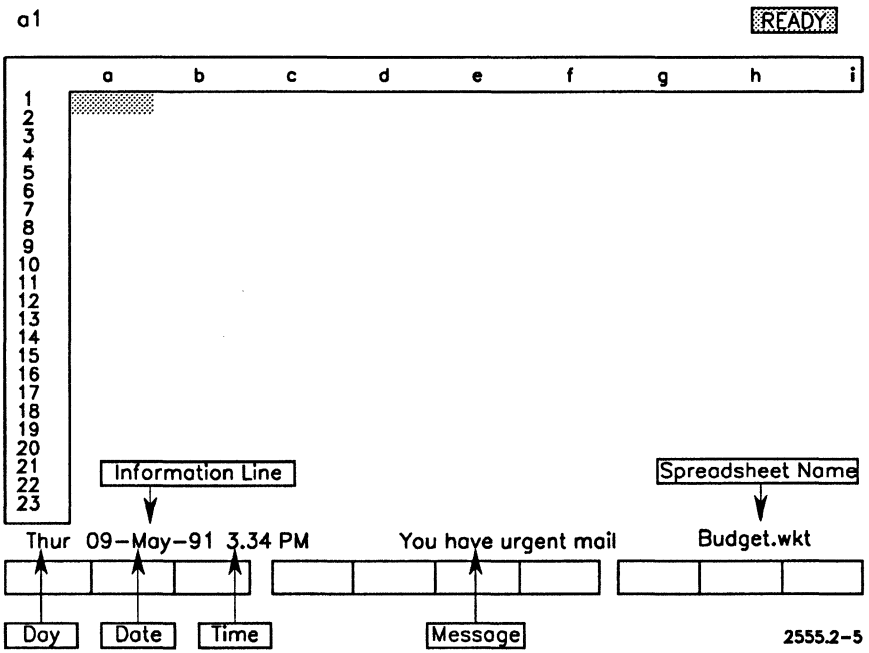


Information Line

The information line is immediately below the worksheet area (refer to Figure 2-5). This line displays the following information:

- The day, date and time
- Notification that you have new mail
- The name of the spreadsheet (if you have named it by saving it)
- Error messages

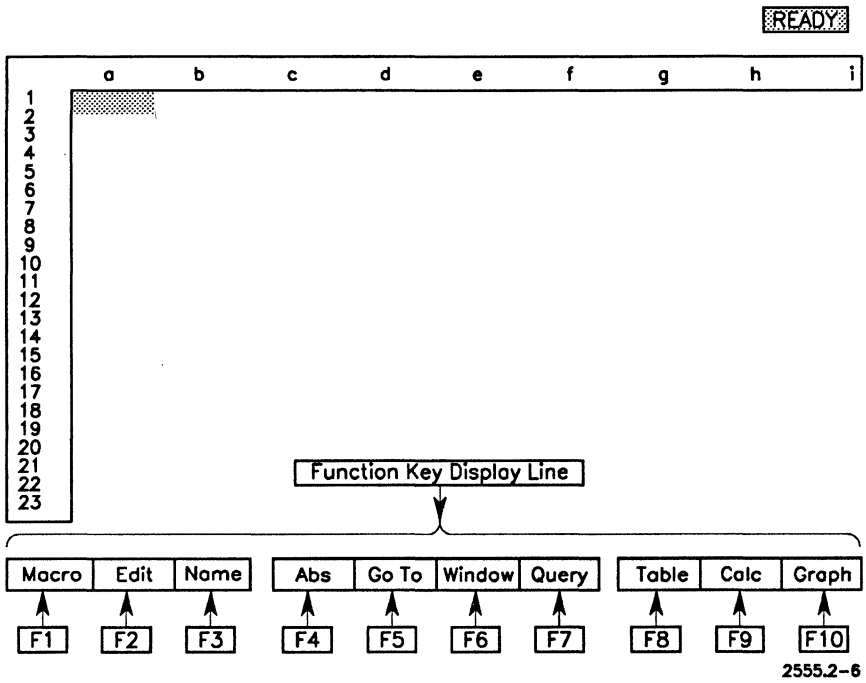
Figure 2-5. Information Line



Function Key Display Line

The last line of the spreadsheet is the function key display line (refer to Figure 2-6). It shows the functions assigned to the variable function keys **F1** through **F10**. You access a function by pressing the corresponding key on your keyboard, or clicking on the function key display line with the mouse. (Refer to Appendix A for function key descriptions.)

Figure 2-6. Function Key Display Line



Mouse Cursor and Mouse Icons

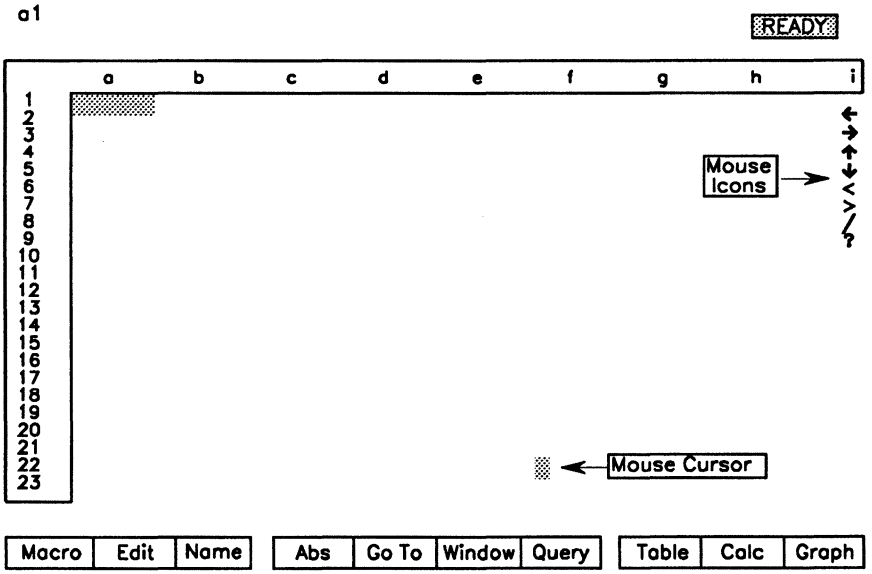
The mouse cursor and icons appear on your screen if your system loads the Mouse Service before it loads OFIS Spreadsheet.

You move the mouse on your desktop, which moves the mouse cursor on your screen.

The mouse icons perform different functions in OFIS Spreadsheet. To access those functions, you move the mouse cursor over a mouse icon and click (press and release) the mouse button.

The exercises tell you which icon to click on. For a description of what each icon does, refer to Appendix A.

Figure 2-7. Mouse Icons and Mouse Cursor



Exercise 3: Moving Around in the Worksheet Area

In this exercise, you practice moving the cell pointer around on the worksheet, and displaying different parts of the worksheet on the screen.

Part 1: Moving the Cell Pointer

1. Move the cell pointer one cell to the right:

Keyboard	Mouse
Press the **RIGHT ARROW** key once.	Move the mouse cursor over the Right mouse icon (→) and click the mouse button.

The cell pointer moves one cell to the right, and the command panel displays the cell address as **b1**.

2. Move the cell pointer one cell down:

Keyboard	Mouse
Press the **DOWN ARROW** key once.	Move the mouse cursor over the Down mouse icon (↓) and click the mouse button.

The cell pointer moves one cell down, and the command panel displays the cell address as **b2**.

3. Move the cell pointer one cell to the left:

Keyboard	Mouse
Press the **LEFT ARROW** key once.	Move the mouse cursor over the Left mouse icon (←) and click the mouse button.

The cell pointer moves one cell to the left, and the command panel displays the cell address as **a2**.

4. Move the cell pointer one cell up:

Keyboard	Mouse
Press the **UP ARROW** key once.	Move the mouse cursor over the Up mouse icon (↑) and click the mouse button.

The cell pointer moves one cell up, and the command panel displays the cell address as **a1**.

5. Try to move the cell pointer past the worksheet boundary:

Keyboard	Mouse
Press the **UP ARROW** key again.	With the the mouse cursor still over the Up mouse (↑) icon, click the mouse button.

The system beeps, and the cell pointer stays in cell **a1**. This indicates that you have reached the worksheet boundary and cannot move the cell pointer any further in that direction.

Part 2: Paging and Scrolling Through the Worksheet

You can view portions of the spreadsheet not currently displayed by paging or scrolling through the worksheet area.

1. To page forward through the worksheet:

Keyboard	Mouse
Press the **NEXT PAGE** key.	Move the mouse cursor over the Next Page mouse icon (>) and click the mouse button.

The system pages forward through the worksheet. The cell pointer is on **a24**, and the command panel displays the cell address **a24**. (Since screen sizes vary, your screen may display a different cell address.)

2. To page backward through the worksheet:

Keyboard	Mouse
Press the **PREV PAGE** key.	Move the mouse cursor over the Previous Page mouse icon (<) and click the mouse button.

The system pages the worksheet backward. The cell pointer is back on **a1**, and the command panel displays the cell address **a1**.

3. Scroll the worksheet to the right until the cell pointer is on **i1**:

Keyboard	Mouse
Press **CODE-RIGHT ARROW** (hold down the **CODE** key and press the **RIGHT ARROW** key).	Move the mouse cursor over the Right mouse icon (→) and click the mouse button eight times.

The system scrolls the worksheet to the right. The cell pointer is on **i1**, and the command panel displays the cell address **i1**.

4. Scroll the worksheet back to **a1**:

Keyboard	Mouse
Press **CODE-LEFT ARROW** (hold down the **CODE** key and press the **LEFT ARROW** key).	Move the mouse cursor over the Left mouse icon (←) and click the mouse button eight times.

The system scrolls the worksheet to the left. The cell pointer is back on **a1**, and the command panel displays the cell address **a1**.

Part 3: Moving the Cell Pointer to a Specific Cell

You can also move the cell pointer to a particular cell with the **GO TO (F5)** function key. To use this function, the mode indicator must display READY.

1. Move the cell pointer to a particular cell:

Keyboard	Mouse
Press the **GO TO** variable function key **(F5)**.	Move the mouse cursor over the **GO TO** function key in the function key display line and click the mouse button.

   The command panel displays the prompt: `Enter address to go to: a1.` (The prompt displays the current cell address; in this case, it is **a1**.)

2. Type **j25**.

3. Press **GO** or **RETURN**.

   The cell pointer moves to **j25**, and the cell address now displays **j25** (the current cell).

Part 4: Returning to Cell a1

To return to cell **a1** from anywhere in the worksheet:

Keyboard	Mouse
Press **CODE-UP ARROW**.	Move the mouse cursor into the area of the screen where the row and column labels intersect and click the mouse button.

The cell pointer returns to **a1**.

Part 5: Practice

1. Practice moving the cell pointer around on the worksheet using any of the methods you just learned.
2. When you have finished, move the cell pointer back to **a1**:

Keyboard	Mouse
Press **CODE-UP ARROW** to return to cell **a1**.	Move the mouse cursor into the area of the screen where the row and column labels intersect and click the mouse button to return to cell **a1**.

Exercise 4: Using Pop-Up Menus

You use pop-up menus to perform spreadsheet operations such as:

- Formatting worksheets, cells, and cell content
- Copying, moving, and erasing cell information
- Saving, retrieving, and printing files
- Creating graphs
- Exiting OFIS Spreadsheet

Each menu lists the options available for that menu operation (for example, the Format menu lists different types of formats). Often, one menu leads to a submenu with more options. In other words, there is a hierarchy of menus with many options to choose from.

Note: *For information on all the menu options, refer to the* CTOS OFIS Spreadsheet Reference Manual.

For the exercises in this guide, you will use several of the pop-up menus and submenus (both are referred to generically as pop-up menus in this guide). To begin, this exercise lets you practice displaying and exiting pop-up menus.

Displaying and Exiting the Pop-up Menu

1. Display the Main pop-up menu:

Keyboard	Mouse
Type a slash character (/).	Move the mouse cursor over the Pop-up Menu icon (/) and click the mouse button.

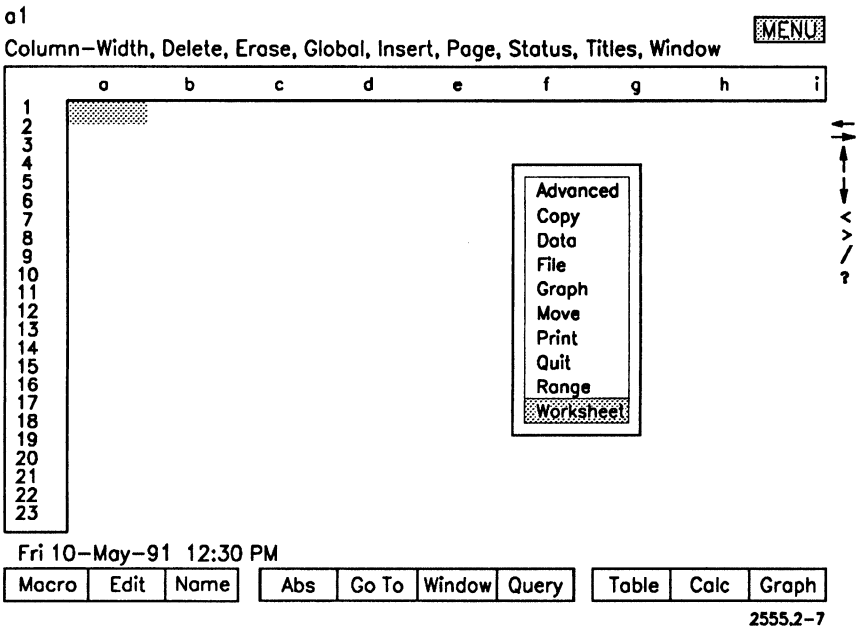
The Main pop-up menu displays with the highlight on the Worksheet option (refer to Figure 2-8). The Worksheet pop-up menu options are listed on the command panel, and the mode indicator displays the word MENU.

2. Exit the Main pop-up menu:

Keyboard	Mouse
Press **CANCEL**.	Press the **CANCEL** button on the mouse.

The Main pop-up menu disappears from the screen, and the mode indicator returns to READY.

Figure 2-8. Main Pop-Up Menu



Moving Around in the Pop-up Menu

To move the highlight through the pop-up menus, use the following procedure:

1. Display the Main pop-up menu:

Keyboard	Mouse
Type a slash character (/) to display the Main pop-up menu.	Move the mouse cursor over the Pop-up Menu icon (/) and click the mouse button to display the Main pop-up menu.

2. Display the Range pop-up menu options:

Keyboard	Mouse
Press the **UP ARROW** key.	Move the mouse cursor into the pop-up menu and place it over the Range option.

The Range pop-up menu options are listed on the command panel.

3. Move the highlight to the Advanced option:

Keyboard	Mouse
Press **UP ARROW** continuously until the highlight is on the Advanced option at the top of the menu.	Move the mouse cursor up through the menu until it is over the Advanced option.

As you move the highlight, notice that the command panel displays corresponding pop-up submenu options, if there are any, or a description of the option if no submenus exist.

4. Move the highlight to the Worksheet option:

Keyboard	Mouse
Press **DOWN ARROW** continuously until the highlight is on the Worksheet option at the bottom of the menu.	Move the mouse cursor down through the menu until it is over the Worksheet option.

5. Watch where the highlight moves when you try to move it out of the bottom of the pop-up menu:

Keyboard	Mouse
Press **DOWN ARROW** again.	Move the mouse cursor out of the pop-up menu and place it over the Down mouse icon (↓). Click the mouse button.

The highlight returns to the top of the menu (over the Advanced option).

6. Watch where the highlight moves when you try to move it out of the top of the pop-up menu:

Keyboard	Mouse
Press **UP ARROW**.	Move the mouse cursor over the Up mouse icon (↑) and click the mouse button.

The highlight returns to the bottom of the menu (over the Worksheet option).

Next, you will learn how to select menu options. There are several ways to select options:

Keyboard	Mouse
Use the Arrow keys to highlight the option, and then press **GO** or **RETURN**. Or, type the first letter of the option.	Move the mouse cursor into the pop-up menu, place the highlight bar over the option, and click the mouse button.

Selecting Options From the Pop-up Menu

The next two procedures introduce you to the option selection methods.

GO or RETURN Key and Mouse Methods

To select a menu option with the **GO** or **RETURN** key or the mouse, use the following procedure:

1. With the Main pop-up menu displayed:

Keyboard	Mouse
a. Move the highlight to the Range option. b. Press **GO** or **RETURN** to select the option. The Range pop-up menu displays with the highlight on the Format option. The command panel displays a description of the Format option. c. Press **GO** or **RETURN** to select the Format option. The Format pop-up menu appears with the highlight on the Fixed option. The command panel displays a description of the Fixed option.	a. Move the mouse cursor into the pop-up menu and place it over the Range option. b. Click the mouse button to select the option. The Range pop-up menu appears. c. Move the mouse cursor over the Format option. d. Click the mouse button to select the option. The Format pop-up menu appears with the highlight on the Fixed option. The command panel displays a description of the Fixed option.

2. To exit the pop-up menu:

Keyboard	Mouse
a. Press **CANCEL** to return to the Range pop-up menu. b. Press **CANCEL** to return to the Main pop-up menu. c. Press **CANCEL** to exit the Main pop-up menu.	a. Press the CANCEL button to return to the Range pop-up menu. b. Press the CANCEL button to return to the Main pop-up menu. c. Press the CANCEL button to exit the Main pop-up menu.

First-Letter Method

To select a menu option by typing the first letter of the option, use the following procedure:

1. Type / to display the Main pop-up menu.
2. With the highlight anywhere on the Main pop-up menu, type the letter **R**.

   The Range pop-up menu displays with the highlight on the Format option.
3. With the highlight anywhere on the Range pop-up menu, type the letter **F**.

   The Format pop-up menu displays with the highlight on the Fixed option.
4. Press **CANCEL** to return to the Range pop-up menu.
5. Press **CANCEL** to return to the Main pop-up menu.
6. Press **CANCEL** to exit the Main pop-up menu.

Note: *In the remainder of the exercises in this guide, the keyboard-based steps instruct you to type the first letter of a menu option to select it. However, when you are creating your own spreadsheets, you can use the selection method you prefer.*

Exercise 5: Using the Help Function

OFIS Spreadsheet provides you with online help that gives you information about OFIS Spreadsheet and its functions. You can access the Help function anytime (for example, while you are entering data or using a pop-up menu). Once the Help screen displays, you can follow the online instructions to proceed.

1. To access the **Help** function:

Keyboard	Mouse
Press the **HELP** key.	Move the mouse cursor over the Help mouse icon (**?**) and click the mouse button.

   The Help screen displays.

2. To exit the **Help** function:

Keyboard	Mouse
Press **CANCEL** to return to the spreadsheet display.	Press the CANCEL button.

Exercise 6: Exiting OFIS Spreadsheet

This exercise shows you how to exit OFIS Spreadsheet. Normally, you would save your spreadsheet before exiting, but since you have not entered any spreadsheet data, you can exit without saving. In the next section, you will learn how to save your spreadsheet data.

1. To exit OFIS Spreadsheet:

Keyboard	Mouse
Type /	Move the mouse cursor over the Pop-up menu icon (/) and click the mouse button.

The Main pop-up menu displays.

2. Select the Quit option:

Keyboard	Mouse
Type **Q** to select the Quit option.	Move the mouse cursor into the Main pop-up menu and click on the Quit option.

The Quit pop-up menu displays with the highlight on the No option.

3. Examine the Save option on the menu:

Keyboard	Mouse
Press **DOWN ARROW** to move the highlight over the Save option.	Move the mouse cursor into the Quit pop-up menu and place it over the Save option.

This is the option you would select if you had created or changed a spreadsheet and wanted to keep it.

4. Move the highlight to the Yes option:

Keyboard	Mouse
Press **DOWN ARROW** again to move the highlight over the Yes option.	Move the mouse cursor over the Yes option.

The message on the command panel warns you that all changes since the last save will be lost.

5. Select the Yes option:

Keyboard	Mouse
Press **GO** or **RETURN.**	Click the mouse button.

The system exits OFIS Spreadsheet and returns you to the Executive Command line or, if you are using Context Manager, to the Context Manager screen.

Note: *You can also exit OFIS Spreadsheet using the **FINISH** key. The next section gives you an opportunity to try this method.*

Summary

The exercises in this section showed you how to do the following:

- Start OFIS Spreadsheet from the Executive Command line and Context Manager
- Recognize the basic parts of a spreadsheet
- Move the cell pointer with the Arrow keys, function keys, and mouse
- Display, move within, and exit pop-up menus using the keyboard and mouse
- Access and exit the **HELP** function
- Exit OFIS Spreadsheet using the Quit option using the keyboard and mouse

In the next section, you begin entering and editing spreadsheet information.

Section 3
Creating a Spreadsheet

In this section, you begin creating a spreadsheet by entering, copying, and editing textual and numeric information. You also learn how to save spreadsheet data with and without exiting OFIS Spreadsheet.

Exercise 7: Entering Labels

In this Exercise, you start creating your spreadsheet by entering labels.

Labels consist of text and are frequently set up as spreadsheet titles or as column or row headings to assist you in identifying data.

The first type of label you will enter in this spreadsheet is your spreadsheet title.

To enter the spreadsheet title, use the following procedure:

1. Access OFIS Spreadsheet, if it is not already displayed (refer to Exercise 1 in Section 2).

   The cell pointer should be positioned in cell **a1**.

2. Type the letter **K**.

   K displays on the command panel, and the mode indicator changes to LABEL. This is because OFIS Spreadsheet automatically recognizes a letter as the beginning of a label entry.

3. Finish entering your spreadsheet title by typing the following:

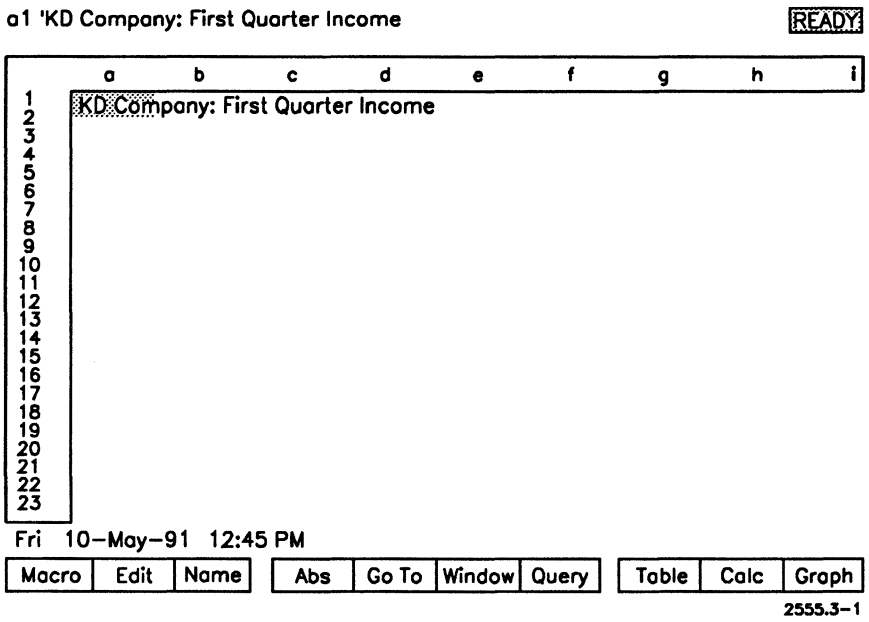
   D Company: First Quarter Income

   If you make a mistake while typing, press **BACKSPACE** to delete the incorrect entry and retype the deleted portion.

4. Press **GO** or **RETURN**.

   The title displays in cell **a1**. Note that the label also displays in the command panel preceded by '. This indicates that the label is left-justified (even with the left edge of the cell). Your spreadsheet now looks like the one illustrated in Figure 3-1.

Figure 3-1. Titled Spreadsheet



The next step is to enter labels for the rows you will be using for your spreadsheet data.

To enter the row labels, use the following procedure:

1. Move the cell pointer to **a4**:

Keyboard	Mouse
Press **DOWN ARROW** three times.	Move the mouse cursor to cell address **a4** and click the mouse button.

2. Type **Income:**
3. Move the cell pointer to **a5**:

Keyboard	Mouse
Press **DOWN ARROW** once.	Move the mouse cursor to cell **a5** (the cell immediately below **a4**) and click the mouse button.

This enters the label **Income:** in **a4** and moves the cell pointer to **a5**.

4. Type **Sales**
5. Move the cell pointer to **a6**:

Keyboard	Mouse
Press **DOWN ARROW** once.	Move the mouse cursor to cell **a6** (the cell immediately below **a5**) and click the mouse button.

6. Type **Rentals**
7. Move the cell pointer to **a7**:

Keyboard	Mouse
Press **DOWN ARROW** once.	Move the mouse cursor to cell **a7** (the cell immediately below **a6**) and click the mouse button.

8. Type **Returns**
9. Move the cell pointer to **a9**:

Keyboard	Mouse
Press **DOWN ARROW** twice.	Move the mouse cursor to cell **a9** (two cells below **a7**) and click the mouse button.

10. Type **Total**:
11. Move the cell pointer to **a11**:

Keyboard	Mouse
Press **DOWN ARROW** twice.	Move the mouse cursor to cell **a11** (two cells below **a9**) and click the mouse button.

12. Type **Expenses**:
13. Move the cell pointer to **a12**:

Keyboard	Mouse
Press **DOWN ARROW** once.	Move the mouse cursor to cell **a12** (the cell immediately below **a11**) and click the mouse button.

14. Type **Lease**
15. Move the cell pointer to **a13**:

Keyboard	Mouse
Press **DOWN ARROW** once.	Move the mouse cursor to cell **a13** (the cell immediately below **a12**) and click the mouse button.

16. Type **Supplies**
17. Move the cell pointer **a14**:

Keyboard	Mouse
Press **DOWN ARROW** once.	Move the mouse cursor to cell **a14** (the cell immediately below **a13**) and click the mouse button.

18. Type **Salaries**
19. Move the cell pointer to **a16**:

Keyboard	Mouse
Press **DOWN ARROW** twice.	Move the mouse cursor to cell **a16** (two cells below **a14**) and click the mouse button.

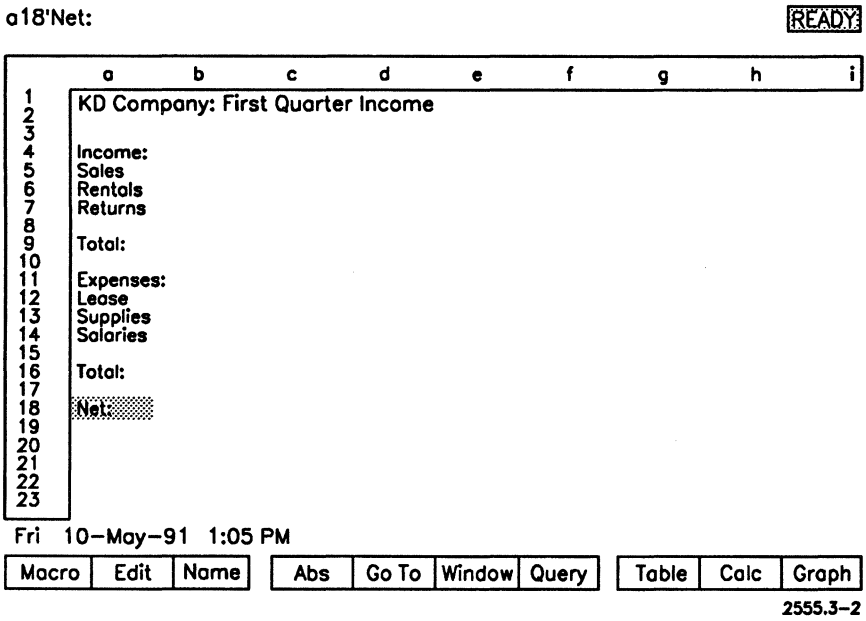
20. Type **Total:**
21. Move the cell pointer to **a18**:

Keyboard	Mouse
Press **DOWN ARROW** twice.	Move the mouse cursor to cell **a18** (two cells below **a16**) and click the mouse button.

22. Type **Net:**
23. Press **GO** or **RETURN**.

    This enters the label without moving the cell pointer. Your spreadsheet now looks like Figure 3-2.

Figure 3-2. Spreadsheet with Row Labels



The next step is to label your spreadsheet columns.

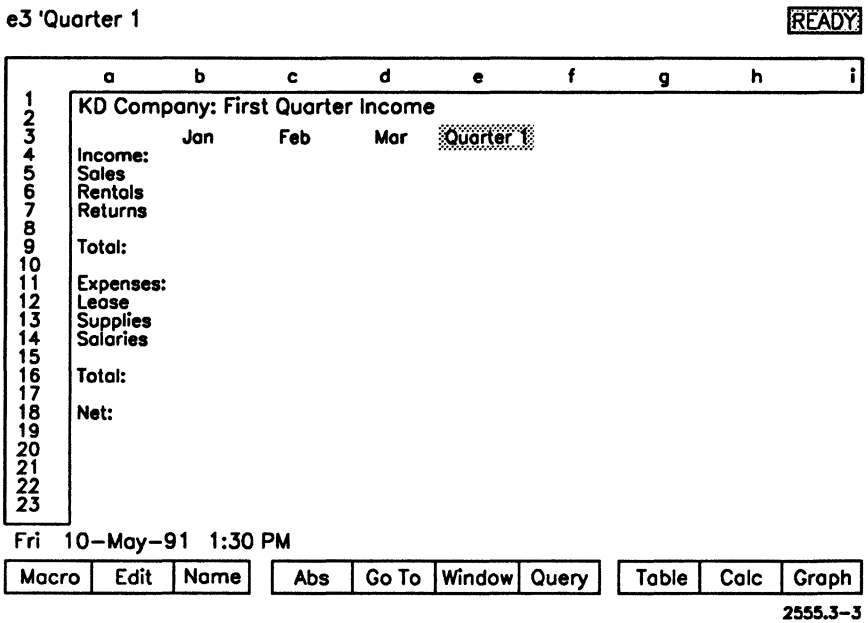
Note: *The remainder of the exercises instruct you to go to a specific cell and make an entry. You can use whichever method you prefer to move the cell pointer, but remember that you must be in Ready mode to use the* ***Go To*** *function. To return to Ready mode after typing a label, press* ***GO*** *or* ***RETURN****.*

To enter the column labels, use the following procedure:

1. Move the cell pointer to **b3** and type **Jan**
2. Move the cell pointer to **c3** and type **Feb**
3. Move the cell pointer to **d3** and type **Mar**
4. Move the cell pointer to **e3** and type **Quarter 1**
5. Press **GO** or **RETURN**.

   The spreadsheet now looks like Figure 3-3.

Figure 3-3. Spreadsheet with Column Labels



The next exercise shows you how to save and name your spreadsheet data.

Exercise 8: Saving Spreadsheet Data

When you save spreadsheet data, you instruct OFIS Spreadsheet to record it on a disk. Saving protects your spreadsheet data from loss if the system fails. It records all new information and revisions you entered since the beginning of the current OFIS Spreadsheet session.

You should perform the save operation periodically to protect your data. During this training, you should perform the save operation when instructed to do so. If you must interrupt the training, you should save your work before exiting OFIS Spreadsheet.

There are two ways to save spreadsheet data:

- You can save the current data and continue working in OFIS Spreadsheet.
- You can save the current data and exit OFIS Spreadsheet.

For now, you are going to save and name the spreadsheet data you have created thus far and continue working. At the end of this section, you will learn how to save while exiting OFIS Spreadsheet.

To save your spreadsheet data without exiting OFIS Spreadsheet, use the following procedure:

1. Display the Main pop-up menu:

Keyboard	Mouse
Type /	Click on the Main pop-up menu mouse icon (/).

2. Select the File option:

Keyboard	Mouse
Type **F**	Click on the File option.

The File pop-up menu displays.

3. Select the Save option:

Keyboard	Mouse
Type **S**	Click on the Save option.

The command panel displays the following: `Enter save filename:`. This means you need to name the file where your spreadsheet data will be stored.

4. Type your initials followed by the number 1 (for example, **KD1**).
5. Press **GO** or **RETURN**.

The mode indicator displays `WAIT` while the system saves the spreadsheet; then it redisplays `READY`. The spreadsheet is still on the screen, but a copy of it is now filed under your initials.

Note: *For the remainder of this guide, the spreadsheet filenames will be referred to as* YourInitials *followed by the appropriate number.*

Exercise 9: Entering Values

You are now ready to enter numeric data, or values, into your spreadsheet.

In this exercise, you enter only some of the values; in the next exercise, you finish entering the values by copying them from one cell to another.

To enter spreadsheet values, use the following procedure:

1. Move the cell pointer to **b5** and type the number **4**.

   The mode indicator displays VALUE, indicating that it recognizes the entry as numeric.

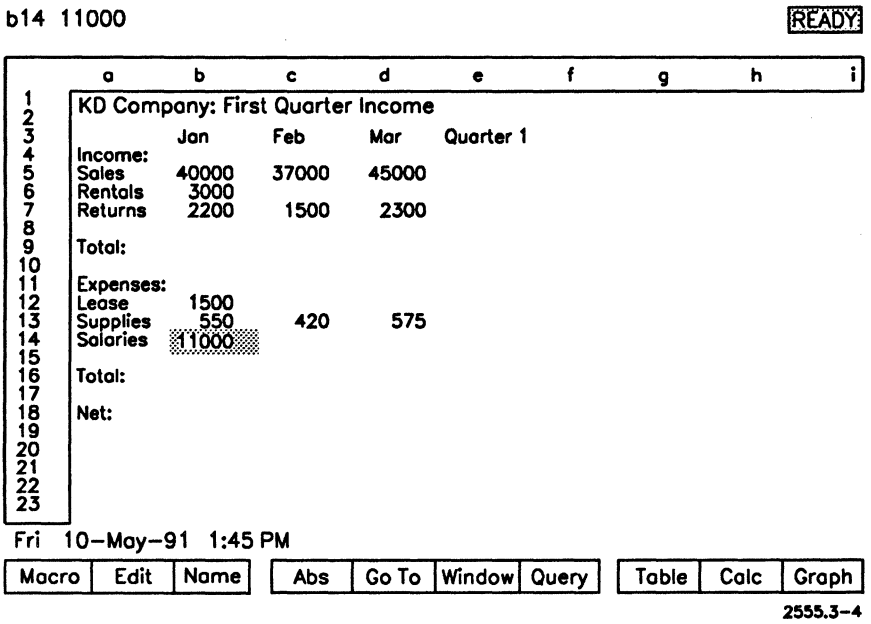
2. Complete the numeric entry by typing the following:

   0000

3. Move the cell pointer to **c5** and type **37000**
4. Move the cell pointer to **d5** and type **45000**
5. Move the cell pointer to **b6** and type **3000**
6. Move the cell pointer to **b7** and type **2200**
7. Move the cell pointer to **c7** and type **1500**
8. Move the cell pointer to **d7** and type **2300**
9. Move the cell pointer to **b12** and type **1500**
10. Move the cell pointer to **b13** and type **550**
11. Move the cell pointer to **c13** and type **420**
12. Move the cell pointer to **d13** and type **575**
13. Move the cell pointer to **b14** and type **11000**
14. Press **GO** or **RETURN**.

    Your spreadsheet now looks like Figure 3-4.

Figure 3-4. Spreadsheet with Some Values Entered



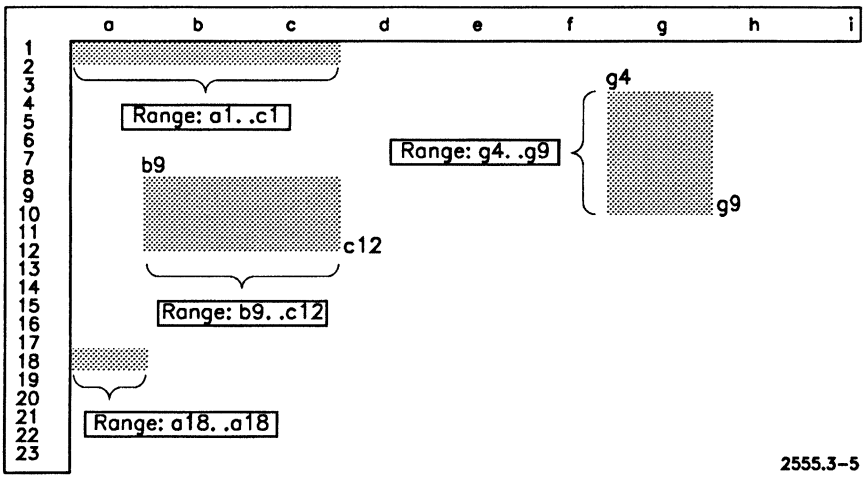
Exercise 10: Copying Data

During this exercise, you will use the Copy menu option and **COPY** key to facilitate entering duplicate data. Both of these operations, as well as several other OFIS Spreadsheet functions, require that you specify a range of cells. Therefore, before beginning the exercise, you should be familiar with the concept of range.

A range can be one cell or a rectangular group of neighboring cells. You specify a range by entering the addresses of the cells located on each end of the range. For example, the cells **a1, a2, a3,** and **a4** can be specified as a range of **a1..a4** because all the cells are adjacent. The cells **a2, a3, a4, b2, b3,** and **b4** can be specified as the range **a2..b4**. However, cells **a1** and **b2** cannot be specified as a range because they are not adjacent.

Figure 3-5 illustrates some valid ranges.

Figure 3-5. Sample Ranges



You will understand the concept of range better each time you use it, and you will get several opportunities to specify ranges in the remaining exercises. For now, follow the steps and observe the screen displays and prompts as you proceed.

You are now ready to use the Copy menu option to copy the value **3000** from cell **b6** to cells **c6** and **d6**.

To copy data with the Copy menu option, use the following procedure:

1. Move the cell pointer to cell **b6**.
2. Display the Main pop-up menu:

Keyboard	Mouse
Type /	Click on the Main pop-up menu mouse icon (/).

3. Select the Copy option:

Keyboard	Mouse
Type **C**	Click on the Copy option.

The command panel displays the following prompt: `Enter range to copy from: b6..b6`. This means OFIS Spreadsheet is asking for the range of cells (the beginning and ending cells of a group of adjacent cells) containing the data you want copied. In this case, you only want to copy one cell, **b6**.

4. Accept the displayed range of **b6**:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click on the Command Panel.

The command panel displays the following prompt: `Enter range to copy to: b6`. This means OFIS Spreadsheet is asking for the range of cells where you want the copied data to appear. In this case, you want to copy the data to cells **c6** and **d6**.

5. Move the cell pointer to **c6**:

Keyboard	Mouse
Press **RIGHT ARROW** once.	Move the mouse cursor to **c6** (one cell to the right of **b6**) and click the mouse button.

The prompt now reads: `Enter range to copy to: c6.`

6. Anchor **c6** as the beginning of the range:

Keyboard	Mouse
Type . (a period).	With the mouse cursor still in **c6**, press *and hold down* the mouse button -- do not release it.

The prompt now reads: `Enter range to copy to: c6..c6.`

7. Expand the range to include **d6**:

Keyboard	Mouse
Press **RIGHT ARROW** once.	Move the mouse cursor to **d6** (one cell to the right).

The prompt now reads: `Enter range to copy to: c6..d6.`

8. To accept this range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Release the mouse button. The method you have used in steps 6 through 8 to select the range is called *clicking and dragging*.

OFIS Spreadsheet copies the value **3000** into cells **c6** and **d6**.

Next, you are going to use the **COPY** key to copy the value **1500** from cell **b12** into cells **c12** and **d12**. This key serves the same function as the Copy option; it is just another way of copying information.

To copy data use the **COPY** key, use the following procedure:

1. Move the cell pointer to cell **b12**.
2. Press the **COPY** key on your keyboard.

   The command panel displays the following prompt: `Enter range to copy from: b12..b12`. Once again, you want to copy one cell, **b12**.
3. Accept the displayed range of **b12**:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The Command panel displays the following prompt: `Enter range to copy to: b12`. In this case, you want to copy the data to cells **c12** and **d12**.
4. Move the cell pointer to **c12**:

Keyboard	Mouse
Press **RIGHT ARROW** once.	Move the mouse cursor to **c12** and click the mouse button.

   The prompt now reads: `Enter range to copy to: c12`.
5. Anchor **c12** as the beginning of the range:

Keyboard	Mouse
Type . (a period).	With the mouse cursor still in **c12**, hold down the mouse button.

   The prompt now reads: `Enter range to copy to: c12..c12`.

6. Move the cell pointer to **d12**.

Keyboard	Mouse
Press **RIGHT ARROW** once.	Move the mouse cursor to **d12**.

The prompt now reads: `Enter range to copy to: c12..d12.`

7. To accept this range:

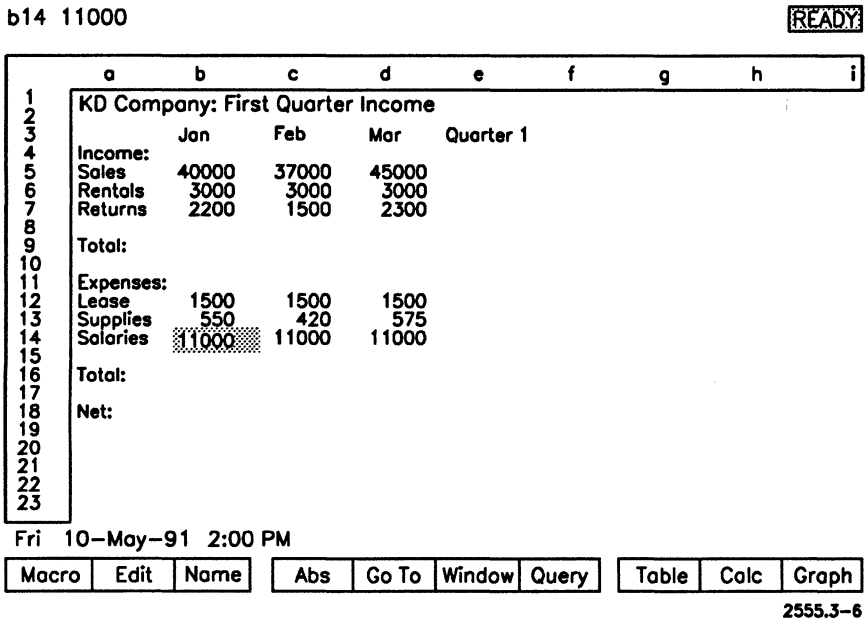
Keyboard	Mouse
Press **GO** or **RETURN**.	Release the mouse button.

OFIS Spreadsheet copies the value **1500** into cells **c12** and **d12**.

8. Copy the value **11000** from cell **b14** to cells **c14** and **d14** using either the Copy option or **COPY** key.

Your spreadsheet should now look like Figure 3-6.

Figure 3-6. Spreadsheet with Copied Values



2555.3-6

Exercise 11: Editing Data

This exercise teaches you the following three methods for changing cell data:

- You can replace existing cell data by positioning the cell pointer in the cell and entering the new data.
- You can use the Erase menu option to delete the existing data and then enter new data in the usual way.
- You can use the **Edit (F2)** function key to change existing cell data.

First, you will replace the value in cell **c6** with a new value.

To replace existing cell data, use the following procedure:

1. Move the cell pointer to **c6**.
2. Type **2400**
3. Press **GO** or **RETURN** to enter the new value.

   The original value, **3000**, is replaced with the new value, **2400**.

Next, you will erase the label in cell **a14** and type in a new label.

To erase an existing cell and enter new data, use the following procedure:

1. Move the cell pointer to **a14**.
2. Display the Main pop-up menu:

Keyboard	Mouse
Type /	Click on the Main pop-menu mouse icon (/).

3. Select the Range option:

Keyboard	Mouse
Type **R**	Click on the Range option.

   The Range pop-up menu displays.

4. Select the Erase option:

Keyboard	Mouse
Type **E**.	Click on the Erase option.

   The command panel displays the prompt: `Enter range to erase: a14..a14.`

5. To accept the displayed range (since this is the only cell you want to erase):

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   OFIS Spreadsheet erases the data from **a14**. Now you can enter a new label as you did at the beginning of this section.

6. Type **Payroll** in cell **a14**.
7. Enter the displayed label:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

Now, you will use the **Edit (F2)** function key to edit the existing value in cell **d14**.

To edit existing cell data, use the following procedure:

1. Move the cell pointer to **d14**.
2. Select the **Edit** function:

Keyboard	Mouse
Press the **Edit (F2)** key.	Move the mouse cursor over the **Edit** function key (in the function key display line) and click the mouse button.

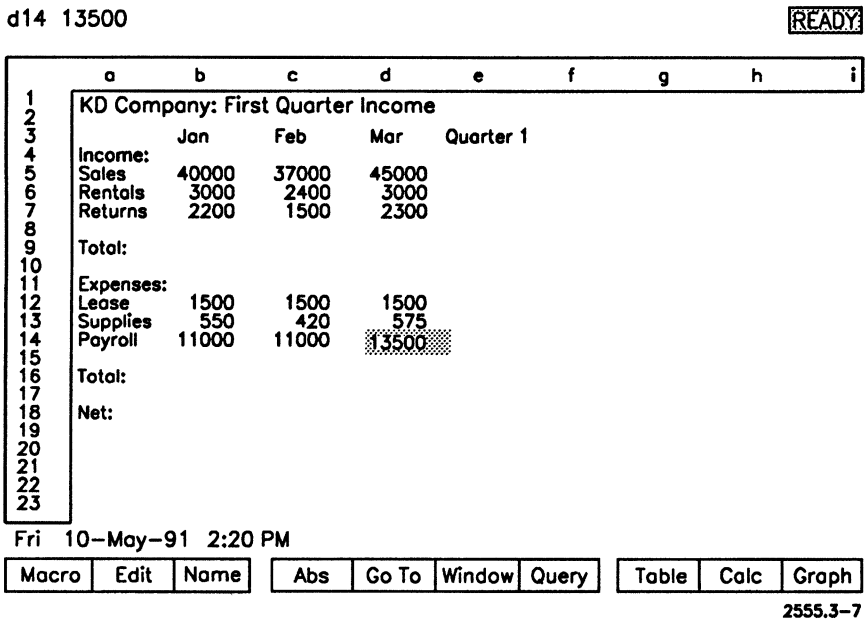
   The command panel displays the contents of the cell for editing.
3. Press **BACKSPACE** key four times to erase the data up to the first **1**.
4. Type **3500**

   The cell entry should now display as **13500**.
5. Enter the new value:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   Your spreadsheet now looks like Figure 3-7.

Figure 3-7. Spreadsheet with Edited Data



The final exercise in this section instructs you on saving your spreadsheet and exiting the OFIS Spreadsheet application. In the next section you will retrieve your spreadsheet and calculate the totals.

Exercise 12: Saving Spreadsheet Data While Exiting

In Exercise 8 you learned how to save spreadsheet data without exiting OFIS Spreadsheet. In this exercise, you perform a save operation during the exit procedure.

Note: *In the previous section, you used the* Quit *option to exit OFIS Spreadsheet. In this exercise, you use the* ***FINISH*** *key to exit. Thereafter, you can use whichever exit method you prefer.*

To save your spreadsheet data while exiting OFIS Spreadsheet, use the following procedure:

1. Press the **FINISH** key.

   This bypasses the Main pop-up menu and goes directly to the Quit menu.

2. Select the Save option:

Keyboard	Mouse
Type **S**	Click on the Save option.

   The command panel displays `Enter save filename:` followed by *YourInitials1*. This is because OFIS Spreadsheet automatically recalls the latest filename used.

3. Use the **RIGHT ARROW** key to move the cursor to the end of the filename.

4. Press the **BACKSPACE** key once to erase the number **1**.

5. Type the number **2**.

6. Enter the new file name:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   OFIS Spreadsheet saves the latest version of the spreadsheet under *YourInitials2*, and exits the application. You now have two spreadsheet files: *YourInitials1* and *YourInitials2*.

Summary

In this section, you:

- Entered a spreadsheet title
- Entered spreadsheet labels
- Entered spreadsheet values
- Copied data to a range of cells using the Copy menu option and **COPY** key
- Replaced spreadsheet data
- Edited spreadsheet data using the Erase menu option and the Edit function key
- Saved spreadsheet data and continue working in OFIS Spreadsheet
- Saved spreadsheet data while exiting OFIS Spreadsheet

In the next section, you will retrieve a spreadsheet and use formulas and specialized OFIS Spreadsheet functions to calculate spreadsheet totals.

Section 4
Performing Spreadsheet Calculations

You can create mathematical statements, called formulas, that tell OFIS Spreadsheet to add, subtract, multiply, divide, and/or analyze values. You can also use preexisting formulas, called functions, provided by OFIS Spreadsheet.

The first thing you learn to do in this section is retrieve an existing spreadsheet. Then, you calculate your spreadsheet totals using formulas and functions. You also get more practice with the copy operation by duplicating formulas and functions when the same calculation must be performed in more than one cell.

Exercise 13: Retrieving a Stored Spreadsheet

At the end of the last section, you learned how to exit and save a spreadsheet. Now, you need to retrieve the latest version of your spreadsheet to continue working on it.

To retrieve a stored spreadsheet, use the following procedure:

1. Start OFIS Spreadsheet.
2. Display the Main pop-up menu:

Keyboard	Mouse
Type /	Click on the Main pop-up menu mouse icon (/).

3. Select the File option:

Keyboard	Mouse
Type **F**	Click on the File option.

The File pop-up menu displays.

4. Select the Retrieve option.

Keyboard	Mouse
Type **R**	Click on the Retrieve option.

OFIS Spreadsheet displays a list of the existing spreadsheet files with **.wkt** (for "worksheet") added to the names, as illustrated in Figure 4-1. The system automatically adds this suffix to a file name when you store a spreadsheet file.

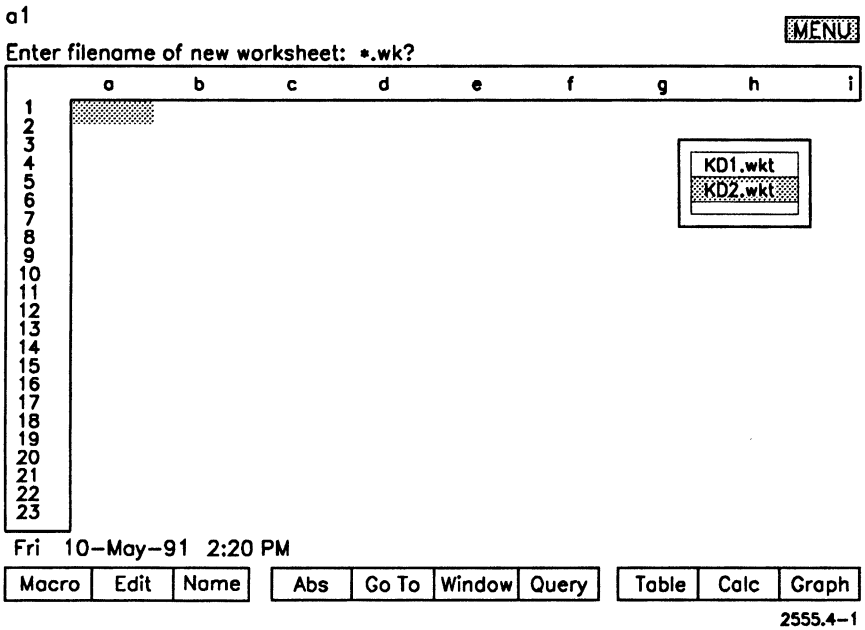
5. Move the highlight to *YourInitials2*.
6. Select *YourInitials2*:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

OFIS Spreadsheet retrieves and displays the file.

You are now ready to continue working on this spreadsheet.

Figure 4-1 Spreadsheet Files Listing



Exercise 14: Creating and Copying Formulas

You can create formulas to calculate spreadsheet data. Some sample formulas, in order of precedence (the order that OFIS Spreadsheet performs the calculations), are:

- 10*2 or +**b2***b7 for multiplication
- 10/2 or +**b2/b7** for division
- 10+5 or +**b2+b7** for addition
- 10-5 or +**b2-b7** for subtraction

Note: *As you saw when you entered labels, OFIS Spreadsheet automatically goes into Label mode when you type a letter. Therefore, when you are beginning a formula with a cell address, you must precede it with a + (plus sign). (You can use symbols other than a plus sign; for more information refer to the* CTOS OFIS Spreadsheet Reference Manual.*)*

In this exercise, you learn how to create and copy a formula that adds values. You will start by creating a formula to add the income values for January. You create the formula in the cell where you want the result to appear (referred to as the *result cell*). In this case, the result cell is **b9**.

Creating a Formula

To create a formula that adds cell values, use the following procedure:

1. Move the cell pointer to **b9**.

   This is the result cell (where you want the result to appear).

2. Type the following formula:

   +b5+b6+b7

3. Press **GO** or **RETURN**.

   OFIS Spreadsheet calculates the total of the values in cells **b5**, **b6**, and **b7** and displays the result (**45200**) in cell **b9**.

Notice that the command panel still displays the formula (not the result) as the content of cell **b9**. This is because OFIS Spreadsheet stores the formula in this cell and uses it to automatically recalculate the result if you change any of the formula's values.

Now, rather than retyping the formula to calculate the income totals for February and March, you can copy the formula you just created into the Total column for these two months. OFIS Spreadsheet automatically changes the cell references in the formula relative to the new result cells.

Copying a Formula

To copy a formula to a range of cells, use the following procedure:

1. Make sure the cell pointer is at **b9**.

   This is the cell that contains the formula you want to copy.

2. Press the **COPY** key.

   The command panel displays the prompt: `Enter range to copy FROM: b9..b9`.

3. Accept the range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The command panel displays the prompt: `Enter range to copy TO: b9`.

4. Move the cell pointer to **c9**.

   The command panel displays the prompt: `Enter range to copy TO: c9`.

2. Anchor cell **c9** as the beginning of the range:

Keyboard	Mouse
Type . (a period).	With the mouse cursor in cell **c9**, hold down the mouse button.

   The command panel displays the prompt: `Enter range to copy TO: c9..c9`.

6. Move the cell pointer to **e9**.

   The command panel displays the prompt: `Enter range to copy TO: c9..e9`.

7. Accept the range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Release the mouse button.

OFIS Spreadsheet copies the formula to cells **c9** through **e9**, changes the references, and displays the results. (The result in cell **e9** is **0** since there are no values to total at this time.)

If you move the cell pointer to cells **c9**, **d9**, and **e9**, you will notice that the cell references in the formula change accordingly. This is because OFIS Spreadsheet interprets each cell address in a formula as it relates to the other cell addresses in the formula. Therefore, if you create a formula in cell **d2** that reads **+a2+b2+c2**, OFIS Spreadsheet interprets it as "*add the three cells to the left of the current cell and display the total.*"

Next, you are going to create and copy another formula to calculate each income category's Quarter 1 totals. As you perform each calculation, notice that the Quarter 1 total in cell **e9** changes accordingly. This is because OFIS Spreadsheet automatically recalculates whenever you change a value contained in a cell that is part of a formula.

Creating and Copying a Formula

To create and copy a formula, use the following procedure:

1. Move the cell pointer to **e5** (the result cell).
2. Type the following formula:

   +b5+c5+d5

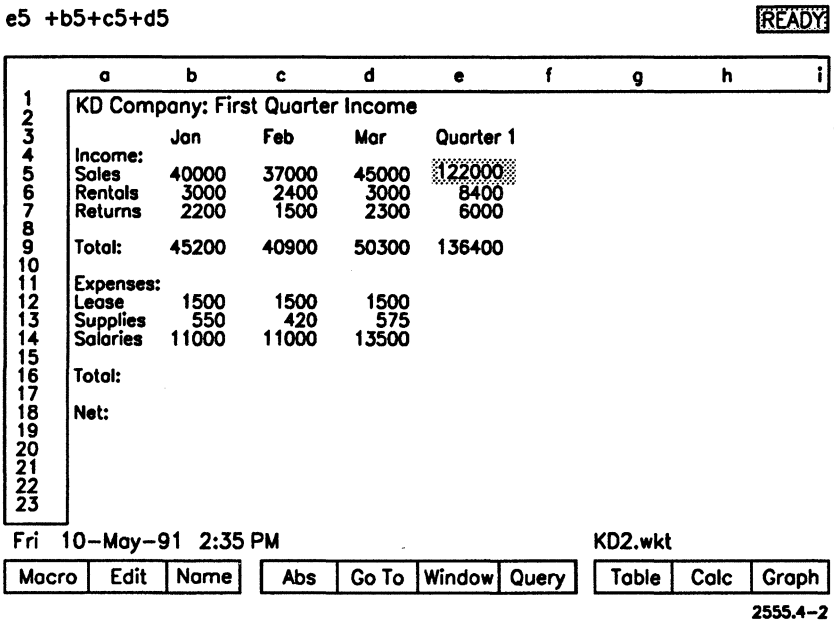
3. Press **GO** or **RETURN**.

   OFIS Spreadsheet calculates the total of the values in cells **b5**, **c5**, and **d5** and displays the result (**122000**) in cell **e5**. It also recalculates the Quarter 1 Income Total in **e9**.

4. Copy the formula in **e5** to **e6** and **e7**.

   OFIS Spreadsheet copies the formula and displays the results. It also recalculates the Quarter 1 Income Total in cell **e9**. Your spreadsheet should now look like Figure 4-2.

Figure 4-2. Spreadsheet with Income Totals



The next exercise shows you how to use the OFIS Spreadsheet functions to perform calculations.

Exercise 15: Using OFIS Spreadsheet Functions

Functions are predefined formulas that OFIS Spreadsheet provides to eliminate the need for typing in certain basic formulas. The available functions include mathematical, financial, statistical, trigonometric, and logical formulas. All of the OFIS Spreadsheet functions begin with @ (the at-sign), for example:

- **@SUM** adds specified values.
- **@AVG** averages specified values.
- **@IF** tests specified conditions (for example, whether a value is less than, greater than, or equal to another value).

A function requires that you include an argument (a list of values) enclosed in parentheses. These are the values you want the function to operate on. For example, **@SUM(b2..b4)** instructs OFIS Spreadsheet to add cells **b2** through **b4**.

Note: *For a complete explanation of all the OFIS Spreadsheet functions, refer to the* CTOS OFIS Spreadsheet Reference Manual.

In this exercise, you use the **@SUM** function to calculate the Expense totals. As with formulas, you begin by placing the cell pointer where you want the result displayed.

To use the **@SUM** function to add cell values, use the following procedure:

1. Move the cell pointer to **b16**.
2. Type the function name **@SUM**
3. Type ((a left-parentheses character) to begin the argument.
4. Use the **UP ARROW** key to move the cell pointer to **b12**:
5. Type . (a period) to anchor **b12** as the beginning of the argument range.
6. The command panel displays the following: `@SUM(b12..b12`
7. Use the **DOWN ARROW** key to move the cell pointer to **b14**.

8. Type) (a right-parentheses) to end the argument.

   The command panel displays the following: `@SUM(b12..b14)` and the cell pointer returns to **b16**.

9. Press **GO** or **RETURN**.

   The result (**13050**) displays in **b16**, but, as with formulas, the **@SUM** function argument still displays in the command panel as the cell content.

You can now copy the **@SUM** function argument you just created into the Total column for the next two months. OFIS Spreadsheet automatically changes the cell references in the function argument relative to the new result cells.

To copy a function to a range of cells, use the following procedure:

1. Make sure the cell pointer is at **b16**.

   This is the cell that contains the function you want to copy.

2. Press the **COPY** key.

3. Accept the range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

4. Move the cell pointer to **c16**.

5. Anchor **c16** as the beginning of the range:

Keyboard	Mouse
Type . (a period).	With the mouse cursor in **c16**, hold down the mouse button.

6. Move the cell pointer to **e16**.
7. Accept the range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Release the mouse button.

OFIS Spreadsheet copies the function to cells **c16** through **e16**, changes the references, and displays the results. (The result in cell **e16** is **0** since there are no values to total at this time.)

Next, you are going to create and copy another function argument to calculate each expense category's Quarter 1 totals. As you perform each calculation, notice that the Quarter 1 total in cell **e16** changes accordingly. This is because OFIS Spreadsheet automatically recalculates whenever you change a value contained in a cell that is part of a function argument.

To create and copy a function argument, use the following procedure:

1. Move the cell pointer to **e12** (the result cell).
2. Type **@SUM(**
3. Move the cell pointer to **b12**.
4. Type **.** (a period) to anchor **b12** as the beginning of the argument.
5. Move the cell pointer to **d12**.
6. Type **)** to end the argument.
7. Calculate the total:

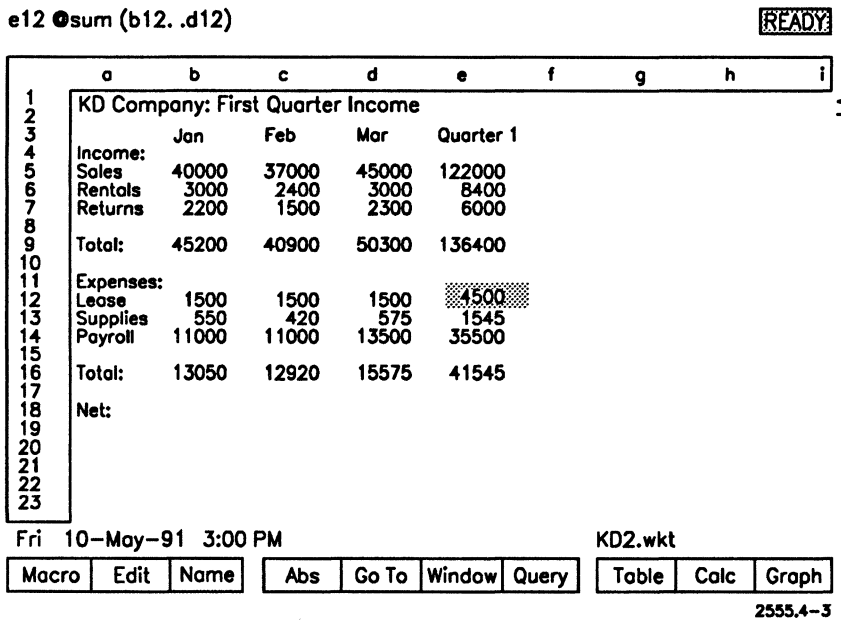
Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

OFIS Spreadsheet calculates the total of the values in cells **b12**, **c12**, and **d12** and displays the result (**4500**) in cell **e12**. It also recalculates the Quarter 1 Expense Total in cell **e16**.

8. Copy the function argument in **e12** to **e13** and **e14**.

   OFIS Spreadsheet copies the function argument and displays the results. It also recalculates the Quarter 1 Expense Total in cell **e16**. Your spreadsheet should now look like Figure 4-3.

Figure 4-3. Spreadsheet with Expense Totals



The next exercise shows you how to calculate the net portion of your worksheet.

Exercise 16: Calculating Net Income

In this exercise, you calculate the net income by creating a formula that subtracts the expense totals from the income totals. At the end of this exercise, you save your spreadsheet data.

To create and copy a formula to calculate the net income, use the following procedure:

1. Move the cell pointer to **b18**.
2. Type the following formula:

   +b9-b16

3. Press **GO** or **RETURN**.

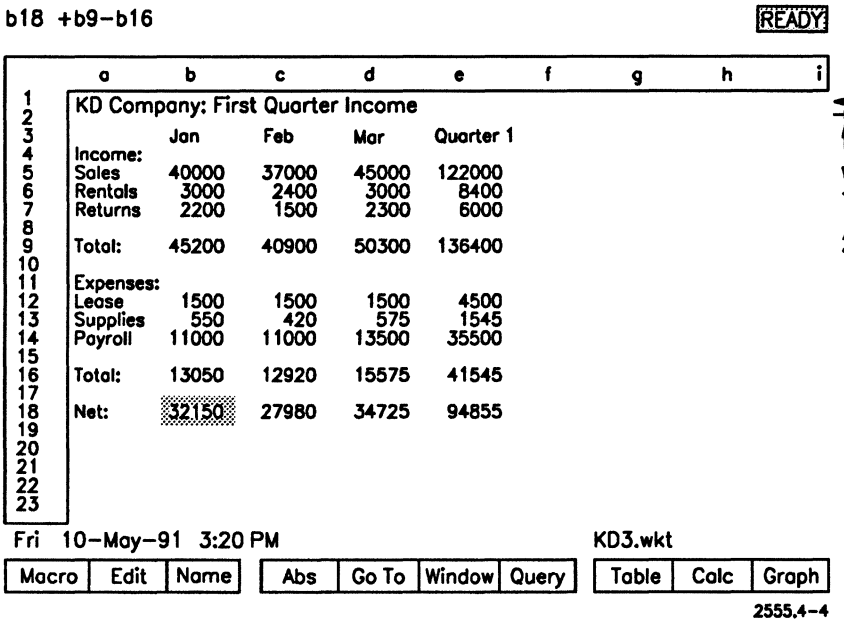
   OFIS Spreadsheet calculates the difference of the values in cells **b9** and **b16** and displays the result (**32150**) in cell **b18**.

4. Copy the formula in **b18** to **c18** through **e18**.

   OFIS Spreadsheet copies the formula and displays the results. Your spreadsheet should now look like Figure 4-4.

5. Save your current spreadsheet as *YourInitials3* with or without exiting OFIS Spreadsheet. (Refer to Section 3 if you need assistance.)

Figure 4-4. Spreadsheet with Net Income



2555.4-4

Summary

In this section, you:

- Retrieved a stored spreadsheet
- Created and copied formulas to add values
- Used the **@SUM** function to add values
- Created and copied a formula that subtracts values

In the next section, you will use OFIS Spreadsheet cosmetics to improve the appearance of your spreadsheet.

Section 5
Formatting a Spreadsheet

You can change the format (appearance) of your spreadsheet by:

- Inserting blank rows and columns
- Creating single and double dotted lines to separate spreadsheet information into logical parts
- Changing the value format
- Adjusting column widths
- Changing label alignment

The exercises in this section introduce you to all of these formatting operations. Before you begin, however, you need to retrieve the spreadsheet *YourInitials3* (refer to "Exercise 13: Retrieving a Stored Spreadsheet" in Section 4 if you need help).

Exercise 17: Inserting Blank Rows and Columns

The first thing you are going to do is insert a blank row between the column and row labels.

To insert a blank row, use the following procedure:

1. Move the cell pointer to **a4**.
2. Display the Main pop-up menu:

Keyboard	Mouse
Type /	Click on the Main pop-up menu mouse icon (/).

3. Select the Worksheet option:

Keyboard	Mouse
Type **W**	Click on the Worksheet option.

4. Select the Insert option:

Keyboard	Mouse
Type **I**	Click on the Insert option.

5. Select the Row option:

Keyboard	Mouse
Type **R**	Click on the Row option.

The command panel displays the following prompt: `Enter row insert range: a4..a4.`

6. Accept the displayed range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

OFIS Spreadsheet inserts an entire row at **a4**, and all data below it moves down one row.

Next, you are going to insert a blank column between the monthly and quarterly columns.

To insert a blank column, use the following procedure:

1. Move the cell pointer to **e3**.
2. Display the Main pop-up menu:

Keyboard	Mouse
Type /	Click on the Main pop-up menu mouse icon (/).

3. Select the Worksheet option:

Keyboard	Mouse
Type **W**	Click on the Worksheet option.

4. Select the Insert option:

Keyboard	Mouse
Type **I**	Click on the Insert option.

5. Select the Column option:

Keyboard	Mouse
Type **C**	Click on the Column option.

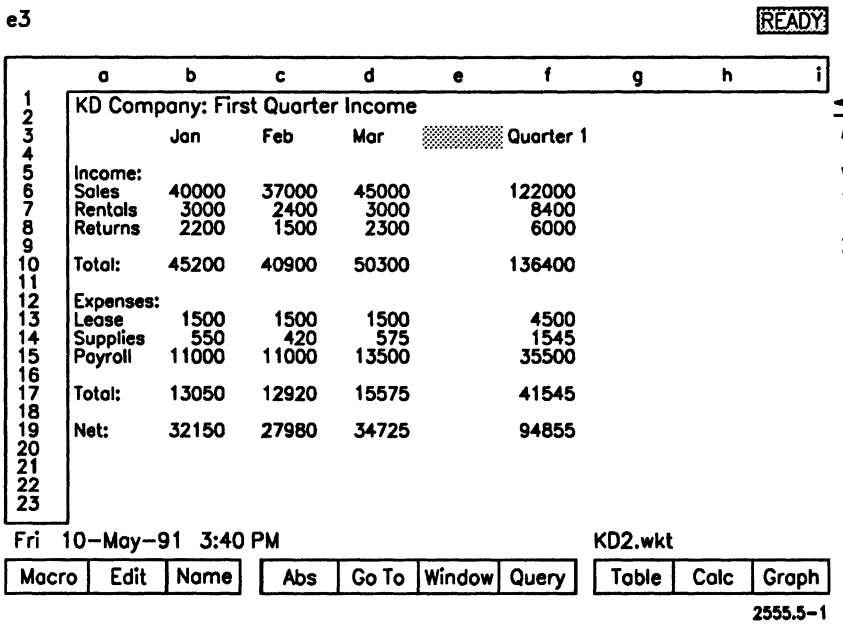
The command panel displays the following prompt: `Enter column insert range: e3..e3`.

6. Accept the displayed range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

OFIS Spreadsheet inserts an entire column at **e3**, and the Quarter 1 data moves one column to the right (column **f**). Your spreadsheet now looks like Figure 5-1.

Figure 5-1. Spreadsheet with Blank Row and Column



Next, you are going to create single and double lines to make your spreadsheet easier to read.

Exercise 18: Creating Lines to Separate Data

To draw a line, you type the \ (backslash) key followed by - (hyphen) for a single line or = (equal sign) for a double line. The \ is located on the numeric keypad on your keyboard. It serves as a repeat key in OFIS Spreadsheet, which means it duplicates the next character typed throughout the current cell.

To create a double line, use the following procedure:

1. Move the cell pointer to **a4**.
2. Type \ (hold down the **SHIFT** key and type the number **8** on the numeric keypad).
3. Type = (the equals sign).
4. Enter the double line:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   A double line displays in **a4**.

5. Copy the double line in **a4** into cells **b4** through **f4**.

   You now have a double line in row 4.

Next, you are going to copy the extended double line to separate the Income section from the Expenses section, and then again to separate the Expenses section from the Net row. Since this is the first time you've copied a range of cells, the following steps take you through the first copy procedure step-by-step and then let you try it on your own.

Note: *This procedure uses the **COPY** key, although you can use the Copy option instead.*

To copy a range of cells (the extended double line) to a range of cells, use the following procedure:

1. Make sure the cell pointer is at **a4**.
2. Press **COPY**.

   The command panel displays the prompt: `Enter range to copy FROM: a4..a4.`
3. Move the cell pointer to **f4**:

Keyboard	Mouse
Use the **RIGHT ARROW** key.	Move the mouse cursor to **f4** and click the mouse button.

   The command panel displays the prompt: `Enter range to copy FROM: a4..f4.`
4. Accept the displayed range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The cell pointer returns to **a4** and the command panel displays the prompt: `Enter range to copy TO: a4.`
5. Move the cell pointer to **a11** (the first cell where you want the copy to appear):

Keyboard	Mouse
Use the **DOWN ARROW** key	Move the mouse cursor to **a11** and click the mouse button.

   The command panel displays the prompt: `Enter range to copy TO: a11.`

6. Anchor **a11** as the beginning of the range:

Keyboard	Mouse
Type . (a period)	With the mouse cursor still in **a11**, hold down the mouse button.

The command panel displays the prompt: `Enter range to copy TO: a11..a11.`

You specify only the beginning of this range since the data being copied will automatically fill the number of cells it needs.

7. Copy the data:

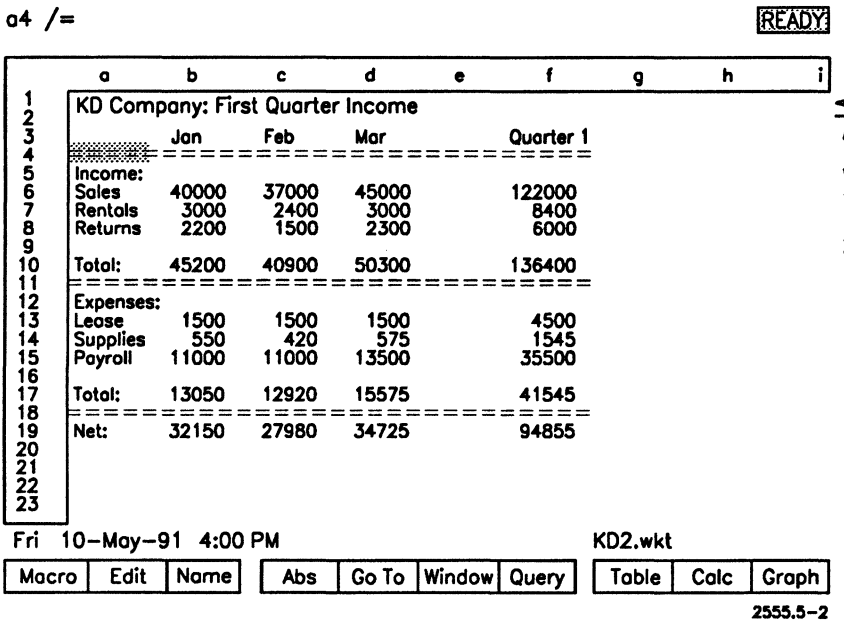
Keyboard	Mouse
Press **GO** or **RETURN**.	Release the mouse button.

OFIS Spreadsheet copies the data from cells **a4** through **f4** into cells **a11** through **f11**. You now have a double line in row 11.

8. Copy the double line in **a11** through **f11** to cell **a18**.

You now have a double line in row 18, and your spreadsheet looks like Figure 5-2.

Figure 5-2. Spreadsheet with Double Lines



Next, you create a single line in row 9 and copy it to row 16.

To create and copy a single line, use the following procedure:

1. Move the cell pointer to **a9**.
2. Type \ (**SHIFT**-Numeric **8**, the backslash).
3. Type - (the hyphen).
4. Create the line:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

A single line displays in **a9**.

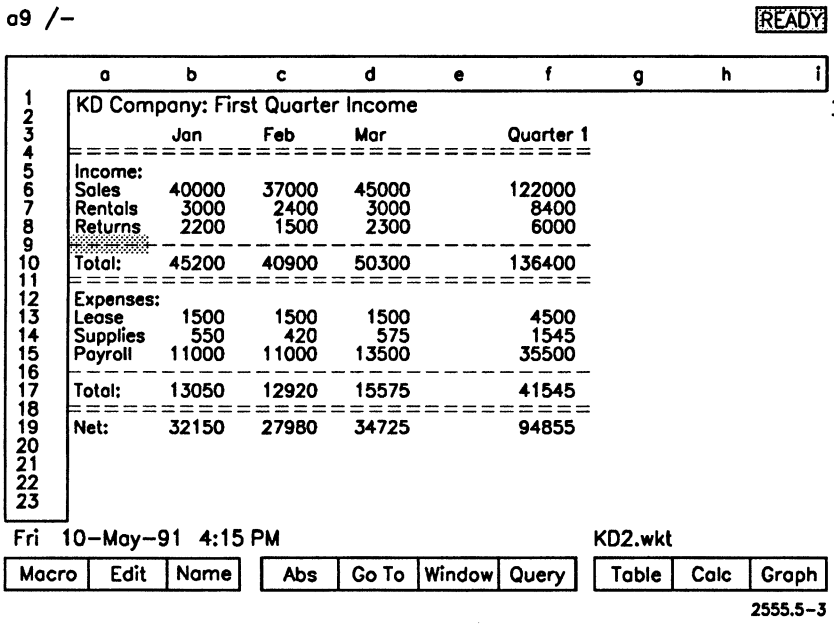
5. Copy the single line in cell **a9** to cells **b9** through **f9**.

   You now have a single line across row 9.

6. Copy the single line in cells **a9** through **f9** to cells **a16** through **f16**.

   You now have a single line in row 16, and your spreadsheet looks like Figure 5-3.

Figure 5-3. Spreadsheet with Single Lines



In the next exercise, you will change the look of your spreadsheet values.

Note: *Since you have used pop-up menus several times in the previous exercises, the remaining exercises instruct you to select an option rather than telling you how to do it. If necessary, you can refer to Section 2, "Exercise 4: Using Pop-Up Menus."*

Exercise 19: Changing Value Formats

In this exercise, you change the spreadsheet values to display as currency (with dollar signs and two decimal places). When you do this, the screen will fill with asterisk signs (*). Do not be alarmed; OFIS Spreadsheet has not destroyed any data, but cannot display it because there are too many characters to fit in the current column width. Therefore, in the next exercise, you change the column width so that all characters are displayed once again.

To change the value format, use the following procedure:

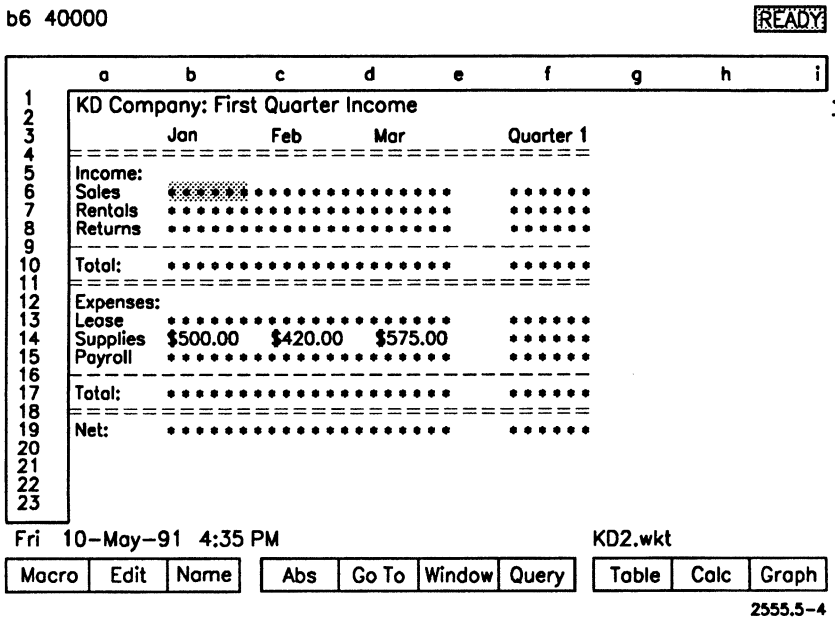
1. Move the cell pointer to **b6**.
2. Display the Main pop-up menu.
3. Select the Worksheet option.
4. Select the Global option.
5. Select the Format option.
6. Select the Currency option.

   The command panel displays the prompt: `Enter number of decimal points: 2.`
7. Accept the default of 2 decimal points:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

The worksheet area displays asterisks in several cells (as illustrated in Figure 5-4).

Figure 5-4. Spreadsheet with Asterisks



Exercise 20: Adjusting Column Widths

In this exercise, you change the width of the spreadsheet columns to accommodate a larger number of characters.

To change the column width, use the following procedure:

1. Access the Main pop-up menu.
2. Select the Worksheet option.
3. Select the Global option.
4. Select the Column-Width option.

   The command panel displays the prompt: `Column width: 9.`
5. Press the **RIGHT ARROW** key.

   The command panel prompt changes to `Column width: 10`, and the values with 10 characters display.
6. Press the **RIGHT ARROW** key.

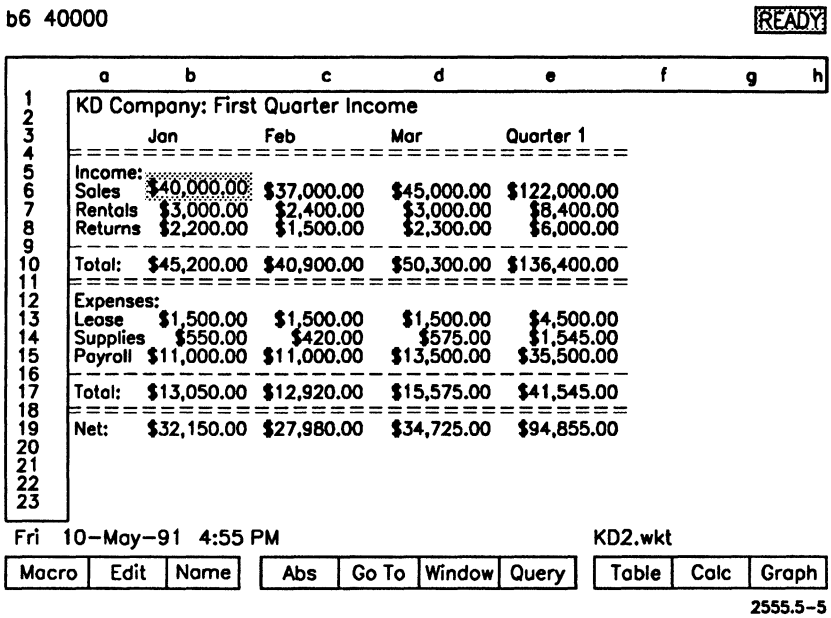
   The command panel prompt changes to `Column width: 11`, and the values with 11 characters display.
7. Press the **RIGHT ARROW** key.

   The command panel prompt changes to `Column width: 12`, and the values with 12 characters display. Since there are no more values left to display, you can accept this width.
8. Accept the column width of **12**:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

Your spreadsheet now looks like Figure 5-5.

Figure 5-5. Spreadsheet with Currency Format and Expanded Column Width



2555.5-5

By now, your spreadsheet values no longer line up with the column labels; so you will realign the labels in the next exercise.

Exercise 21: Changing Label Alignment

Label alignment refers to the placement of a label in a cell. A label can be aligned flush left, flush right, or centered. You can set this alignment by typing the prefix before the label when you enter it into your spreadsheet, or you can change the alignment later.

As you saw when entering labels in Section 3, if you do not enter a prefix when typing in the label, OFIS Spreadsheet automatically places it flush left.

Table 5-1 lists and describes the prefix characters.

Table 5-1. Label Prefix Characters

Label Prefix Character	Description
' (apostrophe)	Flush left; aligns the label along the left edge of the cell (the default)
" (double quotation mark)	Flush right; aligns the label along the right edge of the cell
^ (caret)	Centers the label in the cell

In this exercise, you change the column label alignment so the labels are centered above the values.

To change the label alignment, use the following procedure:

1. Move the cell pointer to **b3**.
2. Access the Main pop-up menu.
3. Select the Range option.
4. Select the Label option.
5. Select the Center option.

   The command panel displays the prompt: `Enter range of labels: b3..b3.`

6. Move the cell pointer to **f3**:

Keyboard	Mouse
Use the **RIGHT ARROW** key	Move the mouse cursor to **f3** and click the mouse button.

The command panel prompt changes to `Enter range of labels: b3..f3.`

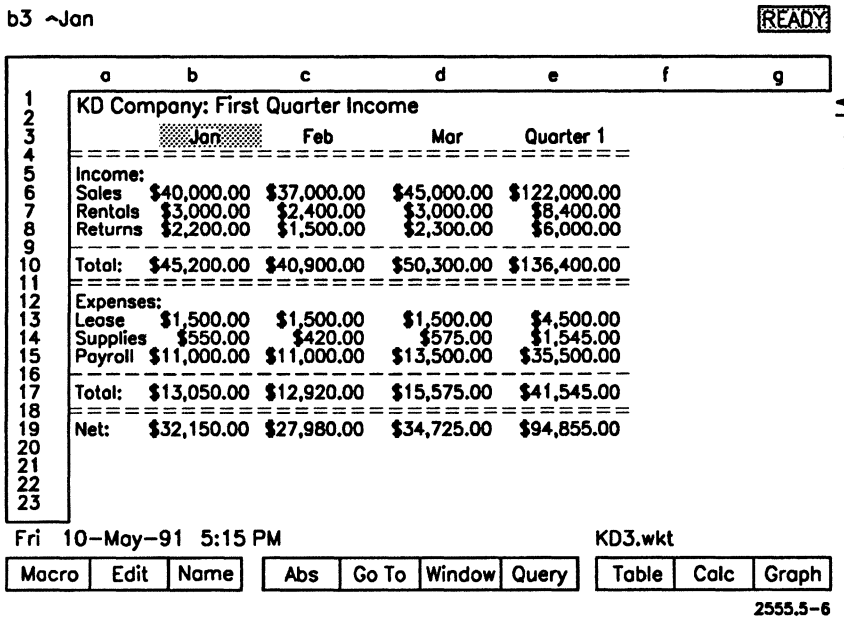
7. Accept the range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

OFIS Spreadsheet centers the column labels, and the center alignment label prefix (^) is added to the cell content display in the command panel. Your spreadsheet should now look like Figure 5-6.

8. Save this spreadsheet as *YourInitials4* (refer to Section 3, if necessary).

Figure 5-6. Spreadsheet with Centered Labels



Summary

In this section, you saw how to improve the appearance of your spreadsheet and separate spreadsheet data. Specifically, you did the following:

- Inserted a blank row
- Inserted a blank column
- Created and copied a single line
- Created and copied a double line
- Changed the value display to currency
- Expanded the column width to accommodate more characters
- Centered labels by changing their alignment

In the next section, you will print a spreadsheet and create graphs to illustrate spreadsheet data.

Section 6
Printing and Graphics

This section contains exercises for printing and creating graphs using spreadsheet data.

Before you begin these exercises, ensure that correct release levels of the following cooperating software is available to your system:

For the printing exercises, CTOS Generic Print System (GPS) must be available.

For the graphing exercises, CTOS OFIS Graphics must be available.

The *CTOS OFIS Spreadsheet Reference Manual* lists the correct release levels. If you are not an experienced CTOS user, ask your system adminstrator for assistance.

Exercise 22: Printing Spreadsheet Data

You can print all or part of a spreadsheet with the Print menu option. To do this, you perform three basic procedures:

- First, you select the name of the printer where you want your spreadsheet data to print.

  You need to do this the first time you print during an OFIS Spreadsheet session or if you want to print on a different printer during the same session. OFIS Spreadsheet automatically uses the same printer for each successive print job during a session unless instructed otherwise.

- Then, you specify the range of data (portion of the spreadsheet) you want to print.

  If you don't specify a range, OFIS Spreadsheet automatically prints the entire spreadsheet.

- Last, you send the spreadsheet data to print.

In this exercise, you use the three basic procedures to print data from the spreadsheet you saved in the last section as *YourInitials4*.

To select a printer, use the following procedure:

1. If it is not already displayed, retrieve the spreadsheet file named *YourInitials4* (refer to Section 4, "Exercise 13: Retrieving a Stored Spreadsheet," if necessary).
2. Position the cell pointer in cell **a1**.
3. Access the Main pop-up menu.
4. Select the Print option.
5. Select the Printer option.

   The Printer pop-up menu displays.
6. Select the Name option.

   The mode indicator flashes the word `WAIT` while OFIS Spreadsheet accesses a list of available printers; then the Name pop-up menu containing this list displays.
7. Move the highlight to the name of the desired printer.

8. Select the printer:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the mouse button.

The Printer pop-up menu redisplays.

You are now ready to select the range of data you want to print (the title and the Income portion of your spreadsheet).

To select the print range, use the following procedure:

1. Select the Range option from the Printer pop-up menu.

   The command panel displays the prompt: `Enter Print Range: a1.`

2. Type **.** (a period) to anchor a1 as the beginning of the range of data you want to print.

3. Move the cell pointer to **f10**.

   The top half of the spreadsheet is now highlighted, and the command panel displays the range `a1..f10`.

4. Select the print range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

OFIS Spreadsheet records the selected range, and the Printer pop-up menu redisplays.

You are now ready to print your spreadsheet data.

To send your spreadsheet data to the printer, use the following procedure:

1. If necessary, check the printer to ensure that the paper is properly aligned.
2. Select the Align option from the Printer pop-up menu.

   This tells OFIS Spreadsheet that the paper is properly aligned and the printer is prepared to accept spreadsheet data. (The Printer pop-up menu stays on the screen.)
3. Select the Go option from the Printer pop-up menu.

   The mode indicator flashes the word `WAIT` while the spreadsheet data is sent to the printer.
4. Select the Quit option to exit the Printer pop-up menu.

   The printout you receive should look similar to Figure 6-1.

Figure 6-1. Spreadsheet Printout

KD Company: First Quarter Income

	Jan	Feb	Mar	Quarter 1
Income:				
Sales	$40,000.00	$37,000.00	$45,000.00	$122,000.00
Rentals	$3,000.00	$2,400.00	$3,000.00	$8,400.00
Returns	$2,200.00	$1,500.00	$2,300.00	$6,000.00
Total:	$45,200.00	$40,900.00	$50,300.00	$136,400.00

2555.6-1

In the next exercise, you learn how to create graphs that illustrate your spreadsheet data.

Exercise 23: Creating Graphs to Illustrate Spreadsheet Data

You can illustrate spreadsheet information using any of the following OFIS Spreadsheet graph types:

- Line
- Bar
- Stacked bar
- Pie
- XY

All graph types involve the following basic procedures:

- You specify the data ranges (up to six) that you want the graph to illustrate.
- You create legends and titles for the graph
- You select and view the desired graph type
- You name and save the graph settings

In this exercise, you use the data contained in spreadsheet *YourInitials4* to create a graph depicting the first quarter income and expense. This means you first need to define two data ranges, the income totals and the expense totals.

To specify data ranges for your graph, use the following procedure:

1. Move the cell pointer to **b10**.
2. Access the Main pop-up menu.
3. Select the Graph option.

   The Graph pop-up menu displays.

4. Select **A** for the first range.

   The command panel displays the prompt: `Enter first data range: b10.`

5. Anchor **b10** as the beginning of the first range:

Keyboard	Mouse
Type . (a period).	With the mouse cursor in **b10**, click the mouse button.

6. Move the cell pointer to **d10**.

7. Accept the the range **b10..d10**

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The Graph pop-up menu redisplays.

8. Select **B** for the second range.

   The command panel displays the prompt: `Enter second data range: b10.`

9. Move the cell pointer to **b17**.

   The prompt changes to: `Enter second data range: b17.`

10. Anchor **b17** as the beginning of the second range:

Keyboard	Mouse
Type . (a period).	With the mouse cursor in **b17**, click the mouse button.

11. Move the cell pointer to **d17**.
12. Accept the range **b17..d17**.

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

The Graph pop-up menu redisplays.

Now that you have specified the two ranges you want represented on your graph, you need to create legends (headings) for them.

To create range legends, use the following procedure:

1. From the Graph pop-up menu, select Options.

   The Options pop-up menu displays.
2. Select the Legend option.

   The Legend pop-up menu displays.
3. Select **A** to create a legend for the first range.

   The command panel displays the prompt: `Enter legend for A-range:.`
4. Type **Income**
5. Enter the legend:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The Options pop-up menu redisplays.
6. Select the Legend option.

   The Legend pop-up menu displays.
7. Select **B** to create a legend for the second range.

   The command panel displays the prompt: `Enter legend for B-range:.`
8. Type **Expenses**

9. Enter the legend:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

The Options pop-up menu redisplays.

10. Return to the Graph pop-up menu:

Keyboard	Mouse
Press **CANCEL**.	Click the CANCEL button.

Next, you define the X-axis range. The X-axis is comprised of the columnar data on the spreadsheet. Since the columnar labels (Jan, Feb, and Mar) are already defined on your spreadsheet, you specify their cell addresses as the X-axis label range.

To define the X-axis labels, use the following procedure:

1. From the Graph pop-up menu, select the X option.

   The command panel displays the prompt: `Enter X-axis range: b10.`

2. Move the cell pointer to **b3**.

   This cell contains the first label you want to use (Jan).

3. Anchor **b3** as the beginning of the range:

Keyboard	Mouse
Type . (a period).	Hold down the mouse button.

4. Move the cell pointer to **d3**.

   This cell contains the last label you want to use (Mar).

5. Accept the range:

Keyboard	Mouse
Press **GO** or **RETURN**.	Release the mouse button.

   The Graph pop-up menu redisplays.

Now, you are going to label the Y-axis. The Y-axis is the scale used to measure the values being depicted. In the case of this spreadsheet, the scale is dollars, so you will use that as the label.

To label the Y-axis, use the following procedure:

1. From the Graph pop-up menu, select Options.

   The Options pop-up menu displays.

2. Select the Titles option.

   The Titles pop-up menu displays.

3. Select the Y-Axis option.

   The command panel displays the prompt: `Enter Y-axis title:.`

4. Type **Dollars**

5. Enter the title:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The Options pop-up menu redisplays.

The last thing you need to do to set up your graph is to create a title for the graph itself.

To create a graph title, use the following procedure:

1. From the Options pop-up menu, select Titles.

   The Titles pop-up menu displays.

2. From the Titles pop-up menu, select First.

   The command panel displays the prompt: `Enter graph title, top line:.`

3. Type **KD CO. - QUARTER1**

4. Enter the title:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The Options pop-up menu redisplays.

5. Return to the Graph pop-up menu:

Keyboard	Mouse
Press **CANCEL**.	Click the CANCEL button.

You are now ready to select a graph type and view your graph. To give you an idea of what the data ranges you just defined look like on various graphs, you will select and view four different graph types.

To select and view different graph types, use the following procedure:

1. From the Graph pop-up menu, select Type.

   The Type pop-up menu displays a list of the available graph types.

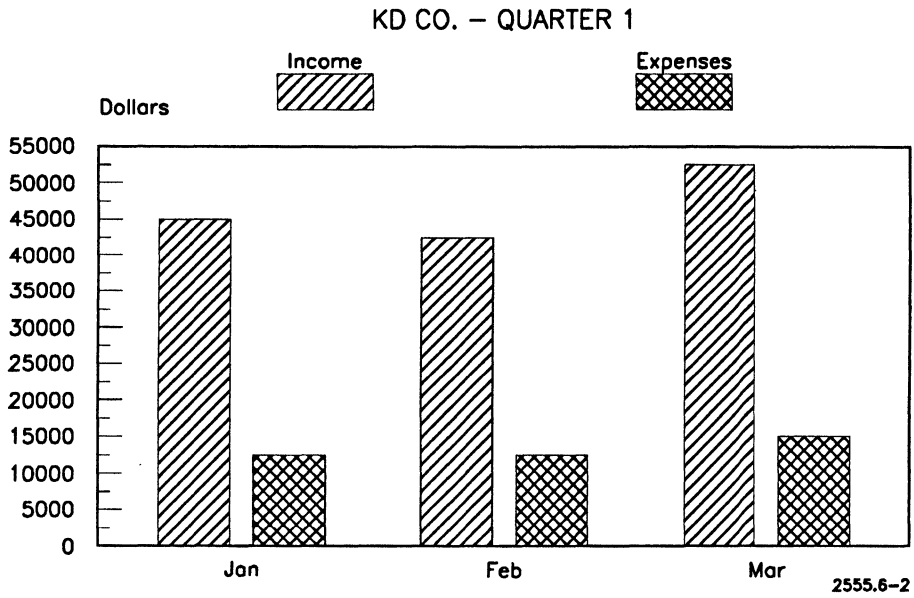
2. Select Bar.

   The Graph pop-up menu redisplays.

3. Select View.

   The mode indicator flashes the word `WAIT` while the system transfers to OFIS Graphics. Once you are in OFIS Graphics, the screen displays your data on a bar graph, similar to the one illustrated in Figure 6-2 (the bar fillings may be different).

Figure 6-2. Bar Graph



4. If you want, you can modify, save, and print the bar graph using OFIS Graphics (refer to the *CTOS OFIS Graphics Operations Guide* for procedures).

5. Press **FINISH** to exit OFIS Graphics.

   If you have not saved the graph, the following message displays:

   ```
   Select GO to continue and lose modified picture, else
   CANCEL.
   ```

   This means the graph will not be saved in OFIS Graphics; however, the graph settings are still recorded in OFIS Spreadsheet. (Refer to the *CTOS OFIS Graphics Operations Guide* for procedures on saving a picture in OFIS Graphics.)

6. Press **GO** to return to OFIS Spreadsheet.

7. Select Type from the pop-up menu.

   The Type pop-up menu displays.

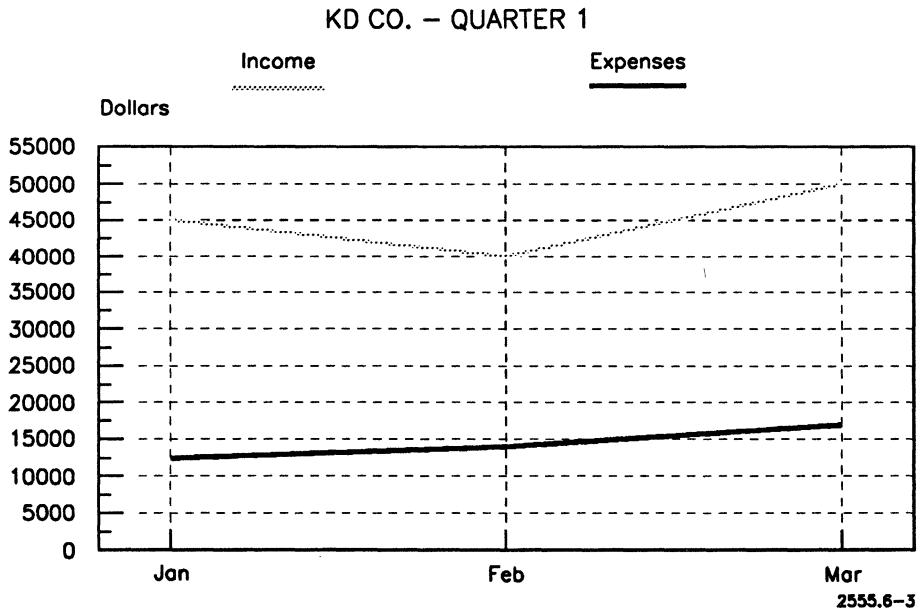
8. Select Line.

   The Graph pop-up menu redisplays.

9. Select View.

   The mode indicator flashes the word WAIT while the system transfers to OFIS Graphics. Once you are in OFIS Graphics, the screen displays your data on a line graph, similar to the one illustrated in Figure 6-3.

Figure 6-3. Line Graph



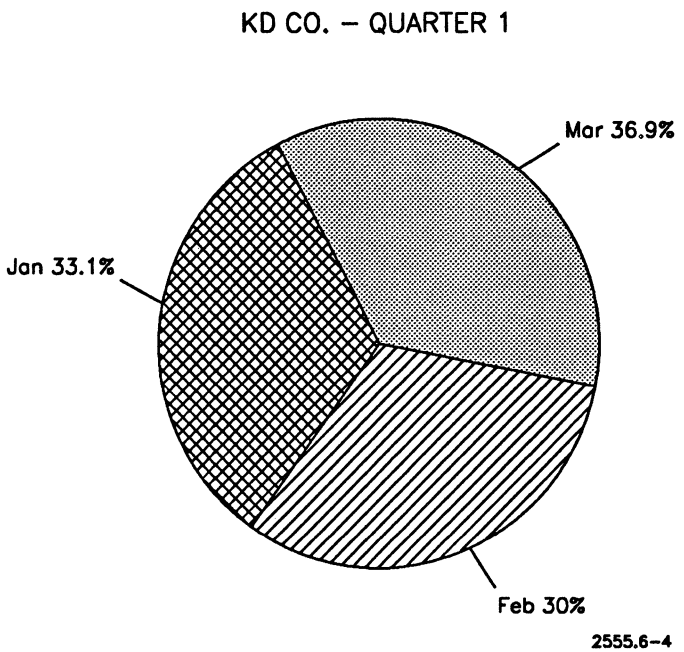
10. If desired, you can modify, save, and print the line using the OFIS Graphics operations (refer to the *CTOS OFIS Graphics Operations Guide* for procedures).
11. Press **FINISH** to exit OFIS Graphics.
12. Press **GO** to return to OFIS Spreadsheet.
13. Select Type from the pop-up menu.

    The Type pop-up menu displays.
14. Select Pie.

    The Graph pop-up menu redisplays.
15. Select View.

    The mode indicator flashes the word `WAIT` while the system transfers to OFIS Graphics. Once you are in OFIS Graphics, the screen displays your data on a pie graph, similar to the one in Figure 6-4.

Figure 6-4. Pie Graph



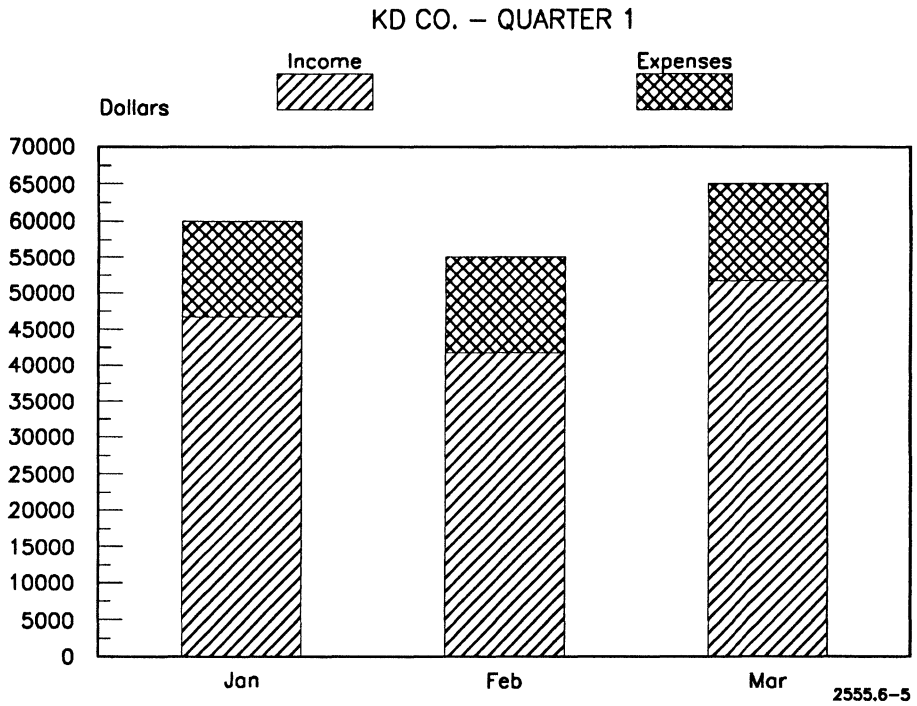
16. Press **FINISH** to exit OFIS Graphics.
17. Press **GO** to return to OFIS Spreadsheet.
18. Select Type from the pop-up menu.

    The Type pop-up menu displays.
19. Select Stacked-Bar.

    The Graph pop-up menu redisplays.
20. Select View.

    The mode indicator flashes the word `WAIT` while the system transfers to OFIS Graphics. Once you are in OFIS Graphics, the screen displays your data on a stacked bar graph, similar to the one illustrated in Figure 6-5.

Figure 6-5. Stacked Bar Graph



21. If desired, you can modify, save, and print the stacked bar graph using the OFIS Graphics operations (refer to the *CTOS OFIS Graphics Operations Guide* for procedures).
22. Press **FINISH** to exit OFIS Graphics.
23. Press **GO** to return to OFIS Spreadsheet.

Note: *You did not select and view an XY graph because it requires a different type of setup. Refer to the* CTOS OFIS Graphics Operations Guide *for further information on XY graphs (scatter charts).*

The final step is to name and save the graph data in OFIS Spreadsheet.

Note: *You can create more than one graph to depict the same spreadsheet data in different ways. However, you should name and save each graph's setup information before creating another.*

Since this is the last exercise in this guide, you will also save your current spreadsheet (which includes all graph settings) and exit the OFIS Spreadsheet application.

To name and save your graph data, use the following procedure:

1. Display the Main pop-up menu.
2. Select the Graph option.

   The Graph pop-up menu displays.
3. Select Name.

   The Name pop-up menu displays.
4. Select Create.

   The command panel displays the prompt: `Enter graph to create:`
5. Type the following:

   QUARTER1
6. Save the graph:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

   The graph settings are saved as *QUARTER1*, and the Graph pop-up menu redisplays.
7. Return to the Main pop-up menu:

Keyboard	Mouse
Press **CANCEL**.	Click the CANCEL button.

8. Select Quit.
9. Select Save.
10. Type **YourInitials5** as the file name for the current spreadsheet data.

11. Save the spreadsheet:

Keyboard	Mouse
Press **GO** or **RETURN**.	Click the Command Panel.

Summary

In this section, you:

- Specified a range of spreadsheet data for printing
- Printed spreadsheet data
- Specified data ranges for graphic illustration
- Labeled graph data
- Selected and viewed various graph types
- Named and saved graph settings

This concludes the training exercises in this guide.

Appendix A
Function Keys and Mouse Icons

This appendix lists and defines the function keys that you use with OFIS Spreadsheet. It also describes the functions of the mouse icons. For more information on these keys and procedures on their use, refer to the *CTOS OFIS Spreadsheet Reference Manual.*

Dedicated Function Keys

Dedicated function keys are marked on the keyboard with the name of the function that they perform. Table A-1 lists the function keys that you use in OFIS Spreadsheet operations.

Table A-1. Dedicated Function Keys

Key Name	Function
BACKSPACE	Erases character to the left of the highlight (or cursor) when OFIS Spreadsheet is in Label, Value, or Edit mode; returns to original cell in Point mode.
BOUND	Marks the end of a selection; in Menu mode, moves to the last option; used in conjuction with Arrow keys to move cell pointer in Point mode.
CANCEL	Returns to previous menu in Menu mode (or to Ready mode when used with the **CODE** key); erases cell content in Label or Value mode; terminates editing in Edit mode; returns to original cell in Point mode.
CODE	Used in combination with other keys to select and execute operations and move cell pointer.

continued

Table A-1. Dedicated Function Keys (cont.)

Key Name	Function
COPY	Initiates the Copy operation.
DELETE	Erases the highlighted character in Edit mode.
FINISH	Exits OFIS Spreadsheet; in Menu mode, returns to previous menu or, if on Main menu, returns to Ready mode; in OFIS Graphics, exits and returns to OFIS Spreadsheet.
GO	Executes an operation or selects a menu option (interchangeable with RETURN).
HELP	Accesses the online Help function.
LOCK	Sets letter input in uppercase.
MARK	Marks the beginning of a selection.
MOVE	Initiates the Move operation.
NEXT PAGE	Displays next screen of Help information and file lists.
OVERTYPE	Causes characters entered to replace existing characters in Edit mode.
PREV PAGE	Displays previous screen of Help information and file lists; in Menu mode moves down one window.
RETURN	Executes an operation or selects a menu option (interchangeable with **GO**).
SCROLL DOWN	Moves display down several lines in Help and one line in file lists; in Menu mode, moves down one option.
SCROLL UP	Moves display up several lines in Help and one line in file lists; in Menu mode, moves up one option.
SHIFT	Allows you to type uppercase letters or symbols (on number keys) and combines with other keys to execute operations and move cell pointer.
TAB	Moves spreadsheet display one window to the right.

Variable Function Keys

Variable function keys are listed on the function key display line at the bottom of the OFIS Spreadsheet screen. They correspond to the keys **F1** through **F10** on the keyboard. Table A-2 lists each variable function key and the purpose that it serves in OFIS Spreadsheet.

Table A-2. Variable Function Keys

Key	Name	Function
F1	Macro	Begins execution of an OFIS Spreadsheet operation that has been predefined for automation.
F2	Edit	Initiates Edit mode for modification of cell content.
F3	Name	Displays a list of range names.
F4	Abs	Makes a cell reference absolute.
F5	Go To	Initiates cell pointer movement to a specific cell.
F6	Window	Moves cell pointer between two windows.
F7	Query	Repeats the most recent query operation.
F8	Table	Recomputes a data table.
F9	Calc	Recalculates spreadsheet data.
F10	Graph	Displays the graph associated with the current spreadsheet.

Mouse Icons

You use the mouse icons together with the mouse cursor. You place the mouse cursor over a mouse icon and depress and release the mouse button, which activates the function controlled by that mouse icon. Table A-3 lists the mouse icons and describes the functions they control.

Table A-3. Mouse Icons

Icon	Function
←	Moves the cell pointer to the left
→	Moves the cell pointer to the right
↑	Moves the cell pointer upwards
↓	Moves the cell pointer downwards
<	Pages worksheet to the left
>	Pages worksheet to the right
/	Displays Main pop-up menu
?	Displays online help

Glossary

A

application

An application is a software program (such as OFIS Spreadsheet) that provides a complete user interface.

argument

An argument is a list of the values (enclosed in parentheses) that a function calculates.

B

boldface

Boldface is a character attribute that prints text with a thicker, heavier appearance. **This text is in boldface.**

C

cell

A cell is the area in the spreadsheet where a column and row intersect.

cell address

The cell address is the column letter and row number at the point of intersection (for example, **a1**).

cell pointer

The cell pointer is the highlighted rectangular box used in the spreadsheet work area to indicate the current cell.

character

A character is a single letter, number, screen symbol, or space.

command panel

The command panel is the area of the OFIS Spreadsheet display that functions as a data entry and edit area, menu option, and prompt display area. This area also contains the current cell address and mode indicator.

Context Manager

Context Manager is the software that allows several applications, utilities, or programs to run concurrently.

copy

Copy refers to the OFIS Spreadsheet operation that allows data duplication within a spreadsheet.

CTOS

CTOS is a workstation operating system.

D

database

A database is a collection of logically related fields (cells) and records (rows).

dedicated function keys

Dedicated function keys are those that always perform the same function (for example, the **DELETE** key).

default

A default is the action OFIS Spreadsheet takes unless it receives an instruction to perform an alternate action.

device

A device is a hardware unit connected to a computer; it is entirely or partially under the computer's control. Examples of devices are printers and disk drives.

disk

A disk is a magnetic storage device for information. The amount of information a disk stores depends on its size. Disks can be hard (internal to your workstation) or flexible (a floppy diskette).

disk drive

A disk drive is a mass storage device that uses a hard or flexible disk to record information.

diskette

A diskette is a reusable, flexible, magnetic storage device that records data.

display

The display is the computer output screen that temporarily stores and presents graphic and/or textual data.

E

edit

To edit is to rearrange, delete, or add data or text to existing text in a cell.

error message

An error message displays when OFIS Spreadsheet cannot complete an operation.

Executive

The Executive is the program that controls access to other programs and data on a workstation.

F

file

A file is data (such as a spreadsheet) stored under a unique name in a directory.

filename

A filename is the name assigned to a file (spreadsheet) at its creation and by which OFIS Spreadsheet recognizes it.

format

Format refers to the way data is arranged for display or storage.

formulas

Formulas are mathematical instructions to OFIS Spreadsheet for calculating specific values.

function key

Function keys perform or start OFIS Spreadsheet operations. There are two types of function keys: dedicated and variable.

function key display line

The function key display line is at the bottom of the OFIS Spreadsheet display, and shows the functions assigned to each variable function key (**F1** through **F10**).

functions

Functions are formulas already set up in OFIS Spreadsheet.

G

Generic Print System (GPS)

GPS is a set of software programs that provide printing services for applications using the CTOS operating system. GPS manages all communications between your workstation and the printers attached to it.

graph

A graph is a way of illustrating spreadsheet data, such as on a bar, line, pie, or XY graph (scatter charts).

graphics

Graphics software and hardware allow the creation and editing of picture images on a computer.

H

hard disk

A hard disk is a mass storage device contained within your workstation. It is a rigid disk enclosed in a dust-free environment to achieve high information density and fast access time.

hardware

Hardware is the physical computer machinery that comprise a computer system.

Help function

The Help function displays information about how an OFIS Spreadsheet key or operation works.

highlight

A highlight is a bright display attribute. It marks commands or options displaying in the command panel.

I

information line

The information line displays the date, time, day, mail notification, and error messages. The information line is located above the function key display line.

input

Input is instructions sent to the system from the keyboard.

install

To install is to copy the operating system and application programs from installation diskettes to the hard disk on a workstation.

integrated workstation

Integrated workstation replaces model names for Convergent Series/i and Unisys B39 workstations.

K

keyboard

A keyboard is the part of the workstation from which input is sent to the system for processing.

L

label

A label is one or more text characters in a cell preceded by a label prefix character.

label prefix character

The label prefix character is the first character of a label entry. OFIS Spreadsheet uses this character to identify the entry as a label entry and establish its alignment on the worksheet.

legend

A legend is a graph data range heading that provides an explanation of the bars, points, symbols, or lines used in the graph.

M

macro

A macro is used to automate OFIS Spreadsheet keystrokes and operations.

message

OFIS Spreadsheet displays messages that prompt for the next appropriate keystroke, communicate the status of an operation, notify the user that there is mail, or warn of a system problem.

mode indicator

The mode indicator displays the status of the spreadsheet (for example, `READY` or `EDIT`).

modular workstation

Modular workstation replaces model names for Convergent NGENs and Unisys B26, B27, B28, and B38 workstations.

O

operating system

The operating system is the software program that provides the computer's basic operating instructions.

output

Output refers to the system's response to keyboard input. Output can be hard (printed) copy, displayed information, or information stored on disks.

P

pop-up menu

A pop-up menu is a list of options or operations that OFIS Spreadsheet can perform.

printer

A printer is a device used to make a hard copy of information that is stored electronically within a computer.

prompt

A prompt is a message that provides options or calls for input.

Q

query

To query is to ask for information from a database.

R

range

A range is a specifically defined rectangular group of cells.

release documentation

Release documentation refers to the document or electronic file that accompanies the distribution media and contains the most current information about the product.

result cell

A result cell is the cell where a formula is entered and the result is displayed.

S

screen

The screen is part of the workstation where the system displays the effect of keyboard input.

scrolling

Scrolling is the vertical movement of displayed information on the screen.

server

A server describes the workstation or shared resource processor that controls resources within a cluster.

session

A session is the time period between signing on to and exiting the system or application.

Shared Resource Processor (SRP)

SRP describes the multiprocessor, floor-model or desktop computer that functions as a server.

sign on

To sign on to the system is to enter a user name to start an Executive, OFIS Spreadsheet, or other application session.

software

Software is a set of programmed instructions that make the computer hardware function. There are three types of software: system software, which performs the overall control of hardware functions; utility software, which performs frequently used tasks required by programmers; and applications software, which manipulates data for a particular purpose (such as spreadsheet or word processing).

spreadsheet

A spreadsheet arranges, calculates, and analyzes data in cells.

SRP

See Shared Resource Processor.

suffix

A filename suffix consists of a period, followed by three alphabetic characters, added to the end of the filename (for example, *sales.**wkt***).

system

System is an abbreviated term for operating system.

system administrator

The system administrator is the person who installs and configures software on your system.

U

user

A user is a person identified by a unique name, who interacts with the operating system or applications (such as an OFIS Spreadsheet user).

V

value

A value is numeric spreadsheet data.

variable function key

Variable function keys are labeled as **F1** through **F10** on the keyboard. They are assigned specific operations, as listed on the OFIS Spreadsheet function key display line.

W

window

A window is the portion of the spreadsheet appearing on the screen.

workstation

A workstation is comprised of a keyboard, display unit, and a central processing unit (CPU) to compute data.

X

X-axis

The X-axis is the horizontal axis of a line, bar, stacked bar, or XY graph.

Y

Y-axis

The Y-axis is the vertical axis of a line, bar, stacked bar, or XY graph.

Index

A

Abs function key, A-3
accessing OFIS Spreadsheet, 2-3
adding values, 4-4 to 4-8
Align option, 6-4
aligning labels, 5-14 to 5-16
argument, defined, 4-9
  creating and copying function argument, 4-9 to 4-12
arrow keys, using, 2-13 to 2-14
asterisks, displayed instead of values, 5-10 to 5-11
@AVG function, 4-9
@IF function, 4-9
@SUM function, 4-9 to 4-12

B

bar graph (*See* also stacked bar)
  viewing, 6-10

C

Calc function key, A-3
calculating, 4-1 to 4-15
cell pointer, 2-13 to 2-14
  defined, 2-5
cell, defined, 2-5
centered labels, 5-14 to 5-16
Column option, 5-3
columns, 2-5
  adjusting width of, 5-12 to 5-13
  inserting blank column, 5-2 to 5-4
  labels, 3-7
Column-Width option, 5-12
command panel, 2-8
conventions, xiv
COPY key, 3-13
copying
  data, 3-13
  formulas, 4-4 to 4-8
creating spreadsheets, 3-1 to 3-24
currency values, displaying, 5-10 to 5-11
cursor, mouse, 2-12

D

deleting data, 3-20
disk requirements, 1-4
dividing, 4-4
documentation, related to this edition, xv
double lines, creating and copying, 5-5 to 5-7

E

Edit function key, 3-21, A-3
editing data, 3-19 to 3-22
entering information, 3-1
  entering 3-1 to 3-8
    column labels, 3-3 to 3-6
    row labels, 3-7 to 3-8
Erase option, 3-20
exiting OFIS Spreadsheet, 2-27 to 2-28

F

files listing, 4-1 to 4-3
finishing OFIS Spreadhsheet, 2-27 to 2-28
  (*See* also saving)
formulas
  copying, 4-4 to 4-8
    @SUM function to range of cells, 4-10
  creating, 4-4
function key display line, 2-11
functions, 4-9 to 4-12

G

Go To function key, A-3
Graph function key, A-3
Graph option, 6-5
graphics
  creating, 6-5 to 6-17
    bar graph, 6-10
    line graph, 6-10
  requirements, 6-1
  saving, 6-16
  selecting graph title, 6-10
  specifying data ranges, 6-5
  creating range legends, 6-7 to 6-8
  viewing graph, 6-7 to 6-9

H

Help function, 2-26

I

icons, mouse, 2-12, A-4
  functions, A-4
IF function, 4-9
@IF function, 4-9
information line, 2-10
installing OFIS Spreadsheet, 2-2
introduction to OFIS Spreadsheet, 2-1 to 2-29

L

labels
  changing alignment of, 5-14 to 5-16
labels
  prefix characters, 5-14
Legend option, 6-7
line graph
  creating data for, 6-5 to 6-7
  viewing, 6-12
lines, creating, 5-5 to 5-9

M

memory requirements, 1-4
menus, accesssing, 2-19 to 2-21
mode indicator, 2-8
mouse
  icons and cursor, 2-12
mouse
  button functions, 1-2
  icon functions, A-4
  using in the exercises, 1-2
multiplying, 4-4

N

Name function key, A-3

O

opening stored spreadsheet, 4-1 to 4-3
operations, basic, 1-1

P

pie graph
  creating data for, 6-5 to 6-7
  viewing, 6-10
pop-up menu
  defined, 2-7
  using, 2-19 to 2-25
prefix characters for labels, 5-14
Print option, 6-2
Printer option, 6-2
printing, 6-1 to 6-4
  Range option, 6-3
  requirements, 6-1
  selecting printer, 6-2

Q

Query function key, A-3
Quit option, 2-27 to 2-28

R

range
  defined, 3-13
range
  specifying for printing, 6-3
Ready mode, 3-7
related documentation, xv
replacing cell data, 3-19
requirements for using OFIS
      Spreadsheet, 1-4
Retrieve option, 4-1
retrieving stored spreadsheet,
      4-1 to 4-3
Row option, 5-2
  inserting blank row, 5-2 to 5-4
rows
  labels, 3-3 to 3-6
rows, 2-5

S

Save option, 3-10
saving
  graphics, 6-16
  while exiting, 3-23
  without exiting, 3-9
single lines, creating and copying, 5-8

stacked bar
  creating data for, 6-5 to 6-7
  viewing, 6-14
starting OFIS Spreadsheet, 2-3
submenu, 2-7
subtracting values, 4-4
SUM function, 4-9 to 4-12
@SUM function, 4-9 to 4-12
system requirements, 1-4

T

Table function key, A-3
Titles option, 6-9

V

value format, changing, 5-10 to 5-11
values
  adding with @SUM, 4-9 to 4-12
values
  entering, 3-11 to 3-12
    with Copy option, 3-14
viewing graph types, 6-10

W

widths of columns, adjusting,
      5-12 to 5-13
Window function key, A-3
worksheet area, 2-5
.wkt suffix, 4-2

X

x-axis range, 6-8 to 6-9
y-axis range, 6-9