

Digital Computer Laboratory
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

SUBJECT: BIWEEKLY REPORT, SEPTEMBER 6, 1953

To: Jay W. Forrester

From: Scientific and Engineering Computation Group

The Special Summer Program in Digital Computers and Their Applications occupied all of the staff and all of the computer time of the Scientific and Engineering Group during this biweekly period. The class consisted of 106 students representing 67 different organizations, including 28 from 18 commercial and business groups, 53 from 39 industrial research groups, 25 from 10 military and government establishments. The students attended lectures each morning. During the afternoons they were divided into 9 sections (about 12 students per instructor) and worked in teams of 4 (plus or minus 3) on the preparation of actual Summer Session computer programs for the solution of two different problems. Each team selected one problem from each of the two groups below, the first being simple problems which were programmed, punched and run on the Whirlwind I computer during the first 4 days of the course, the second being longer problems which were generally, but not universally, completed and run on the Whirlwind I computer. The poker problem was suggested for those interested in logistics and turned out to be the most difficult.

- Minor Problems
- I (a) Plot the trajectory of a ball bouncing on a horizontal plane.
 - (b) Same, making it hit a hole in the plane.
 - II(a) Print the final value of \$1.00 deposited at 3% interest compounded annually since 1626, rounded down each year.
 - (b) Same, rounded to nearest even cent each year.

- Major Problems
- III Mortgage Loan Remittance Allocation
 - IV Inventory Control
 - V From n poker hands, select the winner
 - VI Solving for the Roots of a Polynomial
 - VII Solution of a System of Simultaneous Linear Algebraic Equations
 - VIII Solution of $\partial^2 u / \partial x^2 = c \partial u / \partial t$ with $u(0,t) = u(a,t) = u_0$; $u(x,0) = 0$.
 - IX Analytical Treatment of Power Series

In addition to Dr. Stanley Gill of Cambridge, who spent the summer at the Digital Computer Laboratory, Dr. M. V. Wilkes of Cambridge and Mr. Bruse Moncrieff of Battelle Memorial Institute spent the two weeks at M.I.T. as guests and contributed to the course as lecturers and advisers. Ten manufacturers of commercial computing equipments sent representatives to describe their equipment during four evening gatherings.

A limited amount of regular computation work has been carried on, but reports on this activity will be deferred until the Summer Session is completed and the staff returns to normal routine.

Adams

COMPUTER TIME REPORT

Total Hours Available	78 hours, 07 minutes
Total Hours Used	69 hours, 17 minutes
Total Hours Lost	8 hours, 50 minutes
Percentage	88.6%
Number of Programs Run	97
Total Time Used for Programs	58 hours, 41 minutes
Total Time Used for Conversions	9 hours, 14 minutes
Total Time Used for Demonstrations	0
Drum Check	32 minutes
Calibrations	50 minutes