Digital Computer Laboratory
Massachusetts Institute of Technology
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SUBJECT: BIWEEKLY REPORT, JANUARY 6, 1957

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From: Scientific and Engineering Computation Group

1. MATHEMATICS, CODING AND APPLICATIONS

    1.1   Introduction

           During the past two weeks 255 coded programs were run on
    the time allocated to the Scientific and Engineering (S and EC) Group.
    These programs represent part of the work that has been done on 36 of
    the problems that have been accepted by the S and EC Group.

    1.2   Programs and Computer Operation

Problem No.	Title	Minutes
100	Comprehensive System of Service Routines	54.0
126 D.	Data Reduction	14.6
141	S and EC Subroutine Study	18.6
162 N.	Nuclear Scattering Phase-Shifts	9.8
193 L.	E.V. Problem for Propagation of E.M. Waves	99.3
194 B.,N.	Augmented Plane Wave Method (Sodium)	55.6
203 D,N.	Response of a Building Under Dynamic Loading	15.4
226 D.	Circulation of the Atmosphere	7.1
231 D,N.	Reactor Runaway Prevention	97.4
245 N.	Theory of Neutron Reactions	73.3
253 N.	APW as Applied to Face- and Body-Centered Iron	8.5
256 C.	WWI-1103 Translation Program	11.2
257 C.	Horizontal Stabilizer Analysis	97.5
260 N.	Energy Levels of Diatomic Hydrides	29.2
261 C.	Fourier Synthesis for Crystal Structures	21.9
262 N.	Evaluation of Two-center Molecular Integrals	56.9
273 N.	Cosmic Ray Air Shower	231.9
300 L.	Tropospheric Propagation	90.1
312 L.	Error Analysis	9.2
317 C.	Stability Derivatives from Flight Test Data	43.6
327 L.	Prediction Analysis	64.7
334 C.	Parametric Study of Coupling and Damping	9.6
337 N.	Nonlinear 2nd Order Diff. Eqs.	9.9
341 C.	Statistical and Dynamic Methods in Forecasting	17.3
343 C.	Weather Prediction	119.6
350 D.	Computation of Variances and Covariances	27.9

1.3 Computer Time Statistics

The following indicates the distribution of WWI time allocated to the S and EC Group.

S and EC Programs	20 hrs.	29.4 min.
Lincoln Programs	6 hrs.	43.0 min.
Magnetic Tape Test		44.2 min.
Scope Calibration		8.7 min.
PETR Test		21.2 min.
Test Storage Check		5.1 min.
Total Time Logged	28 hrs.	37.1 min.
Div. 6 Conversions, Inter-run Operations, etc.	3 hrs.	19.0 min.
Total Time Assigned	32 hrs.	25.6 min.
Usable Time, Percentage	97.69%	
Number of Programs	255	