

A USER GUIDE TO INTERACTIVE (APL/360)
PROGRAMS FOR OPERATIONS RESEARCH

by

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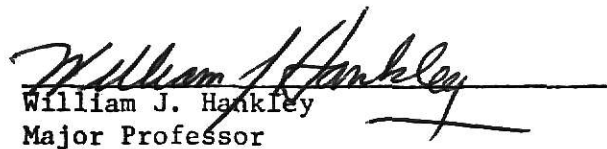
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GENERAL INTRODUCTION

The purpose of this report is to provide a user documentation for the interactive use of a selection of operations research programs available under APL at Kansas State University. There is some documentation for these programs [5] but it is generally not sufficient and clear enough for the user with a minimum computer and APL background. Therefore the intention of this report is to provide a documentation which is easy to read, aimed at a low level, and which includes solved examples for each program.

Many students in introductory operations research and business courses need to use a program which is easy, accessible and gives them a quick result in solving O.R. problems. The available programs under APL are very useful for tutorial purposes and solving small problems where obtaining a fast solution is very important to a user. In contrast, the batch programs are very inconvenient to use. For instance, batch programs generally require considerable "JCL" header information and there is usually a significant delay for receiving the output. However, it must be noted that batch programs are widely used for solving large problems where they cannot be solved by APL programs.

This report consists of five chapters. Chapter I gives an introduction to the APL and time sharing systems. A brief introduction to each technique, examples, comparison and evaluation of each program is given in chapter II through V of the report. Chapter II includes the discussion of the linear programming problem, assignment problem is

given in chapter III, chapter IV discusses the transportation problem and chapter V is about project scheduling. Chapter II through V of the report are each divided into three sections. Section I contains a brief description of each operations research technique with an example. Section II compares and evaluates each program. Section III gives several examples for each program.