

COMPUTER MODELS IN OPERATIONS RESEARCH

A COMPUTER-AUGMENTED
APPROACH

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Preface ix

Introduction 1

MATHEMATICAL PROGRAMMING

1 LINPRO 7

Is a linear model to solve resource allocation problems.

2 DYNAM 24

Is a computer program that will solve problems structured as a dynamic programming model.

NETWORKS

3 NET 40

Is a network analysis model that will solve shortest path and minimum cost flow problems in directed networks.

4 CREW 69

Is a network scheduling model that will solve for the critical path in project scheduling networks. Resource constrained project schedules are solved via the Burgess-Killebrew and JOBLOAD heuristics.

STATISTICAL DECISION THEORY

5 MEAN 89

Is a statistical analysis program that computes measures of central tendency and measures of dispersion and prints frequency histograms.

6 FIT 103

Is a statistical analysis program that will fit empirical data to the uniform, normal, exponential, and Poisson distributions.

7 RISK 118

Is a model for solving problems structured as decision trees considering risk. Present value and Bayesian analysis may be included.

8 UNCERT 135

Is a model for decision making under uncertainty which incorporates the methods of Laplace, Hurwicz, Savage, and Wald.

STOCHASTIC PROCESSES

9 STIC 149

Is a stochastic inventory control model for multiperiod inventory problems with stochastic demand.

10 QUEUES 171

Is a simulation model for single-phase multi-channel queueing systems.

11 MARKOV 198

Is a computer model that will solve brand switching, finite queueing, and random walk problems.

COST-EFFECTIVENESS

12 BUYCAR 217

Is a model that will process data for the choice of a fleet automobile by cost-effectiveness methodology.

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