

爱德思

Decision Mathematics 1

分类真题

2014-2022 册

A Level Clouds 出品

目录

Chapter 1 Algorithms	1
Chapter 2 Algorithms on Graphs	60
Chapter 3 Route Inspection	123
Chapter 4 Travelling Salesman Problem	183
Chapter 5 Critical Path Analysis	215
Chapter 6 Linear Programming	308

Chapter 1

Algorithms

1.

11 17 10 14 8 13 6 4 15 7

- (a) Use the bubble sort algorithm to perform **ONE** complete pass towards sorting these numbers into **ascending** order.

(2)

The **original** list is now to be sorted into **descending** order.

- (b) Use a quick sort to obtain the sorted list, giving the state of the list after each complete pass. You must make your pivots clear.

(4)

The numbers are to be packed into bins of size 26

- (c) Calculate a lower bound for the minimum number of bins required. You must show your working.

(2)

(Total 8 marks)

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1.

McCANN
SMITH
QUAGLIA
CONGDON
EVES
PATEL
BUSH
FOX
OSBORNE

- (a) Use a quick sort to produce a list of these names in alphabetical order. You must make your pivots clear.

(4)

- (b) Use the binary search algorithm on your list to locate the name PATEL. State the number of iterations you use.

(3)

The binary search algorithm is to be used to search for a name in an alphabetical list of 641 names.

- (c) Find the maximum number of iterations needed, justifying your answer.

(2)

(Total 9 marks)

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