

620-261 Introduction to Operations Research

ASSIGNMENT 11

Not to be handed in.

1. Use the dynamic programming algorithm discussed in lectures to solve the travelling salesman problem with distance matrix given by

$$\begin{pmatrix} - & 132 & 217 & 164 & 58 \\ 132 & - & 290 & 201 & 79 \\ 217 & 290 & - & 113 & 303 \\ 164 & 201 & 113 & - & 196 \\ 58 & 79 & 303 & 196 & - \end{pmatrix}.$$

2. Consider the project management problem described by the following table:

Activity	Duration	Immediate predecessors
A	3	–
B	4	–
C	5	–
D	2	–
E	4	A,B
F	3	A,B
G	3	C,E
H	5	D,F

- (a) Draw the network representing this problem.
(b) Compute the total float and free float for each job.
(c) Identify the critical path(s) and critical activities.
(d) Draw the Gantt Chart for this problem.
(e) Repeat (a)-(d) above for the case where E is also an immediate predecessor of H.