1. Consider the following network. Each number along a link represents the actual distance between the pair of nodes that connects. Find a shortest path from O to T with dynamic programming.
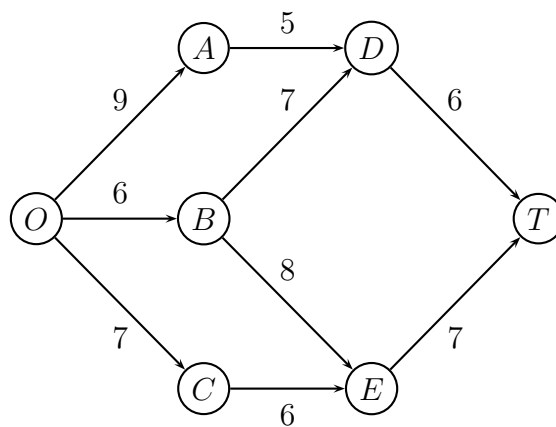
2. A new railway line needs to be built between locations 1 and 6. The table below shows the distances for the different possible legs of the route:

From	1	1	2	2	3	3	4	4	5
To	2	3	5	6	4	5	5	6	6
Distance	3	4	2	7	4	2	2	1	5

(a) Represent the data using a directed graph.

(b) Use dynamic programming to find a shortest route and the length of that route.