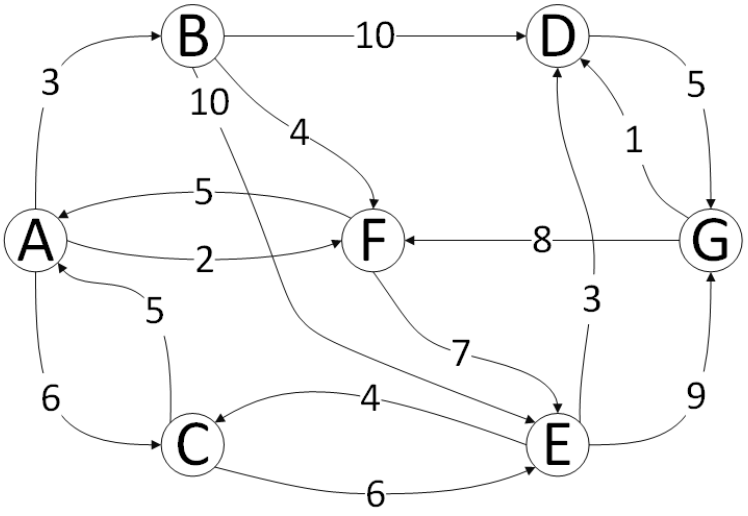
Question 3 Graphs and Max-Heap Trees

Part 1 Consider the following weighted directed graph (with 7 vertices and 16 edges):



(a) Calculate the **shortest path** from *A* to *G* using the Dijkstra's algorithm. ("Shortest" means the path with the lowest total weight.) **[10 marks]**

You are expected to show your work using a table of the following form and also list the shortest path (e.g. A− >B− >C) and and specify the resulting weight:

A	B	C	D	E	F	G	Finished
0,A	∞,B	∞,C	∞,D	∞,E	∞,F	∞,G	

Total Weight:
Shortest Path: