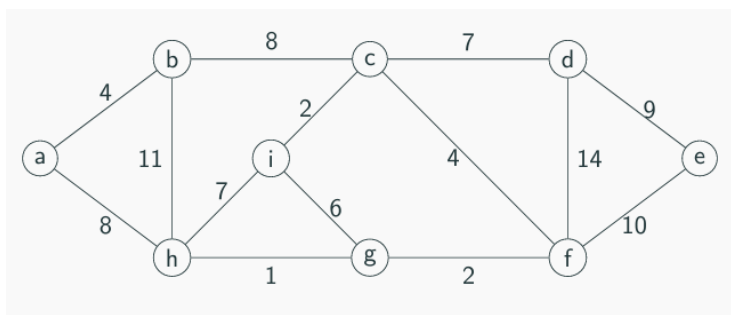


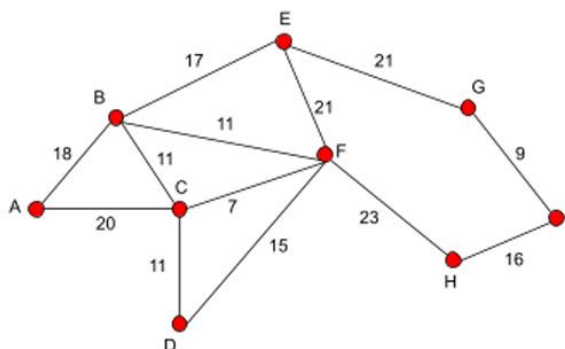
**DAA/ MR22-1CS0141 Assignment Test- 3**

**Submission Dates: 26-11-2023 to 03-12-2023**

1. Explain the control abstraction for Greedy method with suitable example.
2. Briefly discuss components of Greedy algorithm. What are the applications of Greedy algorithm?
3. a) What is Job sequencing with deadlines problem? Explain the procedure and algorithm.  
b) Use the Greedy algorithm for sequencing unit time jobs with deadlines and profits to generate the solution when  $n=9$ ,  $(d_1, d_2 \dots d_9) = (5, 4, 3, 3, 4, 5, 2, 3, 7)$  and  $(p_1, p_2 \dots p_9) = (85, 25, 16, 40, 55, 19, 92, 80, 15)$ .
4. Write the Greedy Knapsack algorithm and estimate the optimal solution where knapsack capacity  $m= 28$ ,  $P = \{9, 5, 2, 7, 6, 16, 3\}$  and  $w = \{2, 5, 6, 11, 1, 9, 1\}$ .
5. What is a Minimum Cost Spanning tree? Construct Minimum cost spanning trees for the given weighted graph by using Prim's algorithm.



6. Describe the the Kruskal's Algorithm and Construct a Minimum Spanning tree for the given weighted graph by using Kruskal's algorithm.



7. a) Discuss the Dijkstra's single source shortest path algorithm.  
b) Consider the below graph and find the shortest path from the source to all the nodes.

**School of Engineering**  
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