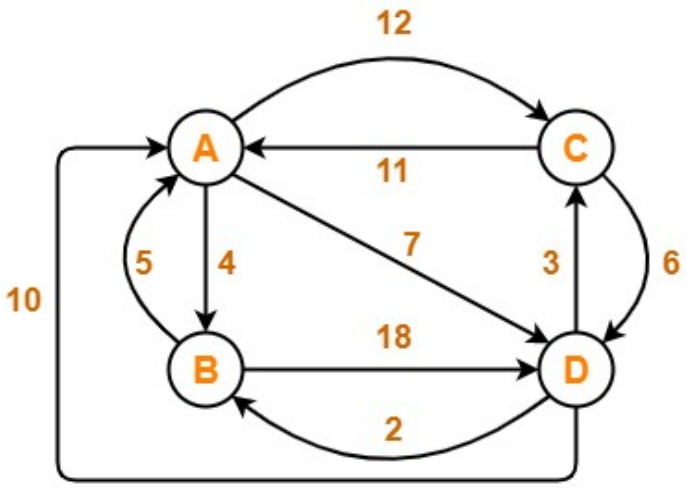
ASSIGNMENT QUESTIONS

1. Solve Travelling Salesman Problem using Branch and Bound Algorithm in the following graph-



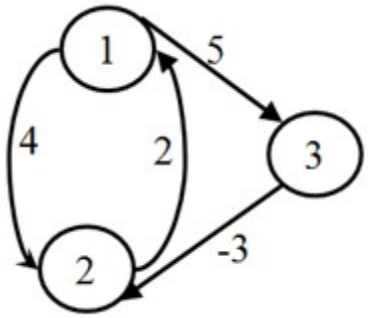
2. Solve the following 0/1 Knapsack Problem using Branch & Bound Algorithm (both LC BB & FIFO BB)

[Hint: LC BB Method is explained in the Slide Uploaded. For FIFO Method the child nodes are explored in First in First out manner.] **Capacity =10**

ITEMS	Weights	Profits
A	2	$40
B	3.14	$50
C	1.98	$100
D	5	$95
E	3	$30

3. Solve the following sum of subset problem using backtracking: **w= {1, 3, 4, 5}, m=8.** Find the possible subsets of 'w' that sum to 'm'. [Draw state space tree to find the solution]

4. Find the **shortest paths** between between **all pairs** of vertices in a graph given below



1. **Optimal path is: A → C → D → B → A**

   Cost of Optimal path = 25 units

2. **1, 0,1,1,0**

3. 2 subsets

4. https://sandynguyen.wordpress.com/2012/11/20/floyds-algorithm-all-pairs-shortest-path/