Group A: Assignment No. 3

Title: - Implement Greedy search algorithm for Prim's Minimal Spanning Tree Algorithm.

Code :-

```
INF = 9999999
# number of vertices in graph
N = 5
# creating graph by adjacency matrix method
G = [[0, 25, 5, 0, 0],
     [20, 0, 5, 8, 2],
     [5, 15, 0, 1, 3],
     [0, 6, 1, 0, 1],
     [0, 2, 4, 12, 0]]

selected_node = [0, 0, 0, 0, 0]
no_edge = 0
selected_node[0] = True
# printing for edge and weight
print("Edge : Weight\n")
while (no_edge < N - 1):

    minimum = INF
    a = 0
    b = 0
    for m in range(N):
        if selected_node[m]:
            for n in range(N):
                if ((not selected_node[n]) and G[m][n]):
                    # not in selected and there is an edge
                    if minimum > G[m][n]:
                        minimum = G[m][n]
                        a = m
```

```
                    b = n
print(str(a) + "-" + str(b) + ":" + str(G[a][b]))
selected_node[b] = True
no_edge += 1
```

Output: