# Prim's Algorithm in Python

INF = 9999999

# number of vertices in graph

N = 5

#creating graph by adjacency matrix method

G = [[0, 19, 5, 0, 0],

     [19, 0, 5, 9, 2],

     [5, 5, 0, 1, 6],

     [0, 9, 1, 0, 1],

     [0, 2, 6, 1, 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