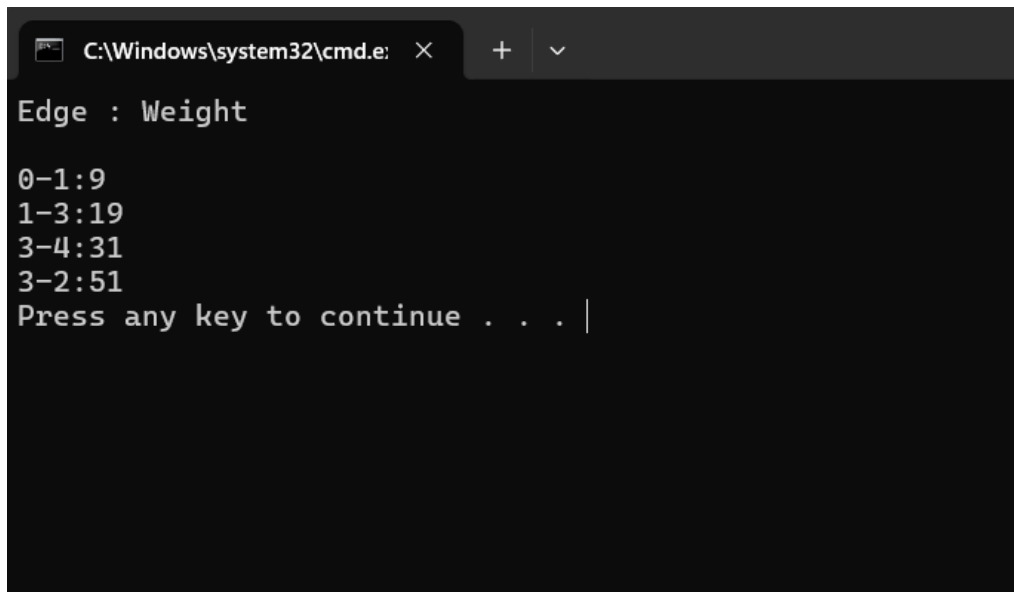## 97) Boruvka's Algorithm

CODE:

```python
INF = 9999999
V = 5
G = [[0, 9, 75, 0, 0],
     [9, 0, 95, 19, 42],
     [75, 95, 0, 51, 66],
     [0, 19, 51, 0, 31],
     [0, 42, 66, 31, 0]]
selected = [0, 0, 0, 0, 0]
no_edge = 0
selected[0] = True
print("Edge : Weight\n")
while (no_edge < V - 1):
    minimum = INF
    x = 0
    y = 0
    for i in range(V):
        if selected[i]:
            for j in range(V):
                if ((not selected[j]) and G[i][j]):
                    if minimum > G[i][j]:
                        minimum = G[i][j]
                        x = i
                        y = j
    print(str(x) + "-" + str(y) + ":" + str(G[x][y]))
    selected[y] = True
    no_edge += 1
```

OUTPUT:

```
C:\Windows\system32\cmd.e:     X     +    v

Edge : Weight

0-1:9
1-3:19
3-4:31
3-2:51
Press any key to continue . . . |
```

TIME COMPLEXITY : $O(n^2)$