

192. There are  $n$  cities numbered from 0 to  $n-1$ . Given the array `edges` where `edges[i] = [fromi, toi, weighti]` represents a bidirectional and weighted edge between cities `fromi` and `toi`, and given the integer `distanceThreshold`. Return the city with the smallest number of cities that are reachable through some path and whose distance is at most `distanceThreshold`. If there are multiple such cities, return the city with the greatest number. Notice that the distance of a path connecting cities  $i$  and  $j$  is equal to the sum of the edges' weights along that path.

PROGRAM:

```
import heapq

def findTheCity(n, edges, distanceThreshold):

    graph = [[float('inf')] * n for _ in range(n)]

    for i, j, w in edges:

        graph[i][j] = graph[j][i] = w

    for i in range(n):

        graph[i][i] = 0

    for k in range(n):

        for i in range(n):

            for j in range(n):

                graph[i][j] = min(graph[i][j], graph[i][k] + graph[k][j])

    min_count = float('inf')

    res = -1

    for i in range(n):

        count = sum(d <= distanceThreshold for d in graph[i] if d != float('inf')) - 1
```

```
if count <= min_count:
```

```
    min_count = count
```

```
    res = i
```

```
return res
```

```
# Example
```

```
n = 4
```

```
edges = [[0,1,3],[1,2,1],[1,3,4],[2,3,1]]
```

```
distanceThreshold = 4
```

```
print(findTheCity(n, edges, distanceThreshold)) # Output: 3
```

```
OUTPUT:
```

```
3
```

```
=== Code Execution Successful ===
```

```
TIME COMPLEXITY:O(N^3)
```