Activity 4: Runtime of Naïve Kruskal’s

Fill in the left-hand run times below for Kruskal’s Algorithm based on the naïve union-find implementation of merging clouds.

```
function kruskal(G):
    //Input: undirected, weighted graph G
    //Output: list of edges in MST
    for vertices v in G: ----------------------
        makeCloud(v)
    MST = []
    Sort edges by weight ---------------------
    for all edges (u,v):
        if u and v are not in same cloud:
            add (u,v) to MST
            merge clouds containing u and v
    return MST
```

Runtime of Naïve Kruskal’s: ______________

Activity 5: Runtime of Path-Compression Kruskal’s

Fill in the right-hand run times below of Kruskal’s Algorithm based on the path-compression union-find implementation of merging clouds.

Runtime of Path-Compression Kruskal’s: ______________