CS 141
Quiz 3 **ANSWERS**

1- Dijkstra's Algorithm

-JFK, starting point
-Insert PVD to the cloud with the edge 144
-Insert BWI to the cloud with the edge 184
-Insert BOS to the cloud with the edge 187
-Insert ORD to the cloud with the edge 740
-Insert MIA to the cloud with the edge 1090
-Insert DFW to the cloud with the edge 1393
-Insert SFO to the cloud over ORD, with the total distance of 740+1846 = 2586
-Insert LAX to the cloud over DFW, with the total distance of 1391+1235= 2626

2- Prim-Jarnik Algorithm

-JFK, starting point
-Insert PVD to the cloud with the edge 144
-Insert BWI to the cloud with the edge 184
-Insert BOS to the cloud with the edge 187
-Insert ORD to the cloud with the edge 621, over BWI
-Insert DFW to the cloud with the edge 802, over ORD
-Insert MIA to the cloud with the edge 946, over BWI
-Insert LAX to the cloud with the edge 1235, over DFW
-Insert SFO to the cloud with the edge 337, over LAX

3- Edge Relaxation

if $D[u] + w((u, z)) < D[z]$ **then**
$D[z] \leftarrow D[u] + w((u, z))$

If the newly discovered path to z is no better than the old way, then we do not change $D[z]$.