Name:_____   Name: _____

Name:_____   Name: _____

Dijkstra's Example

For the following graph, what is the **length** of the shortest path from D to all other vertices?

```
FUNCTION Dijkstra(G, start_vertex)
    found = {}
    lengths = {v: INFINITY FOR v IN G.vertices}

    found.add(start_vertex)
    lengths[start_vertex] = 0

    WHILE found.length != G.vertices.length
       FOR v IN found
          FOR vOther, weight IN G.edges[v]
             IF vOther NOT IN found
                vOther_length = lengths[v] + weight
                IF vOther_length < min_length
                   min_length = vOther_length
                   vMin = vOther
       found.add(vMin)
       lengths[vMin] = min_length

    RETURN lengths
```
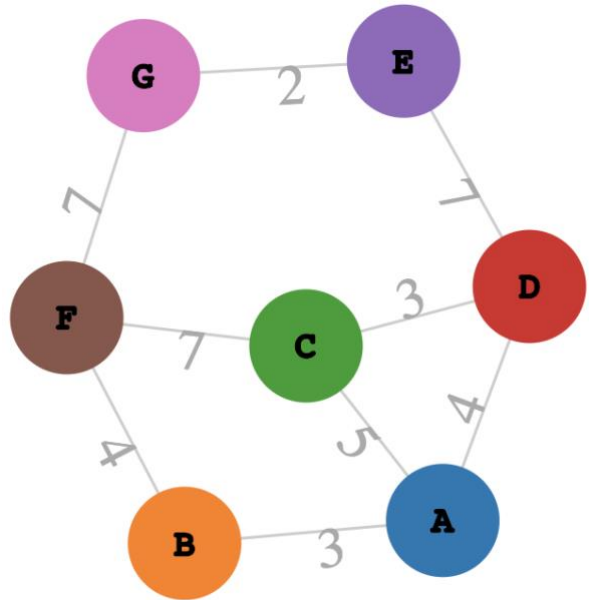

A	B	C	D	E	F	G
			0			

You must show your work below to receive full credit. Specifically, show your candidate edges for each iteration of Dijkstra's Shortest Path Algorithm. `min_length` is set to infinity at the top of every while-loop iteration.