CS 212 Homework 11

1. R-6.9.

2. R-6.10.

3. Draw the undirected graph below and illustrate the execution of Dijkstra’s algorithm on it: write in intitial d() values for each node, and draw a line through the old value and write in the new when a value is updated. Highlight the shortest-path spanning tree.

```
A  B  C  D  E  F  G  H
A  4  2
B  3  9
C  3  9
D  8  3
E  1  2
F  
G  7
H  
```

What is the shortest path from A to H?

4. Draw another graph, this time directed, with weights as shown below. Illustrate the execution of Bellman-Ford on the graph: write in the d() values. Draw a line through old ones and write in new ones at each iteration. Highlight the new shortest-path tree.

```
A  B  C  D  E  F  G  H
A  9  2
B  -6 6
C  3  9
D  8  3
E  1  2
F  -6 3
G  
H  7
```