ECE 5960-023/6960-025 – Advanced Programming for Computer Design Problems

In-class Practice 7 (due 2020/3/5 in class)

1. Finish graph.cpp by implementing depth first search (DFS) in two versions, iterative stack and recursion, and breadth first search (BFS) using queue. Write down the output (i.e., order of vertex traversal) for each function below:

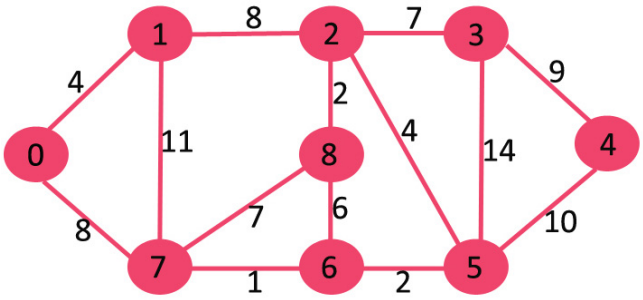
DFS-iterative:

DFS-recursive:

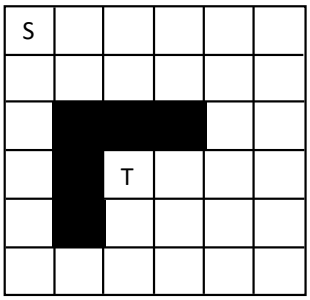
BFS:

2. Finish the mst.cpp by implementing the greedy algorithm to generate the minimum spanning tree. What is the output of the total weight?

3. Use your mst.cpp to find the minimum spanning tree of the following graph. You can modify the vector variable `graph` to represent the new graph.



4. Find the shortest route from S to T on the following 6x6 grid



- ❑ **You can expand 8 directions**

2	2	2
2	1	2
2	2	2

- ❑ **Black cells are blockages**

Name: uid: