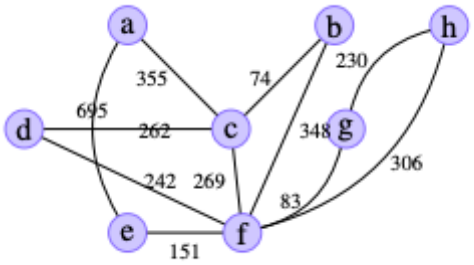
In this assignment, you will create a C++ program that implements the Prim Algorithm to find the minimum spanning tree for a simple, undirected, weighted graph. The input to the program will be a *weighted adjacency matrix,* or *WAM*. The output from the program will be another weighted adjacency matrix for the minimum spanning tree produced by the Prim algorithm.

You do not need to check for bad input. You may assume the user always enters a correct WAM. An example graph is shown below.



The WAM for this graph would be:

0	*0*	*355*	*0*	*695*	*0*	*0*	*0*
0	*0*	*74*	*0*	*0*	*348*	*0*	*0*
355	*74*	*0*	*262*	*0*	*269*	*0*	*0*
0	*0*	*262*	*0*	*0*	*242*	*0*	*0*
695	*0*	*0*	*0*	*0*	*151*	*0*	*0*
0	*348*	*269*	*242*	*1 51*	*0*	*83*	*306*
0	*0*	*0*	*0*	*0*	*83*	*0*	*230*
0	*0*	*0*	*0*	*0*	*306*	*230*	*0*

Below is a sample output for the program. It shows the WAM the user entered and the WAM generated using the Prim algorithm and the total weight of the minimum spanning tree. (Your program should print your name first.)

> Enter the WAM please.

The WAM entered is:

0	0	355	0	695	0	0	0
0	0	74	0	0	348	0	0
355	74	0	262	0	269	0	0
0	0	262	0	0	242	0	0
695	0	0	0	0	151	0	0
0	348	269	242	151	0	83	306
0	0	0	0	0	83	0	230
0	0	0	0	0	306	230	0

The output from Prim's algorithm is:

0	0	355	0	0	0	0	0
0	0	74	0	0	0	0	0
355	74	0	262	0	0	0	0
0	0	262	0	0	242	0	0
0	0	0	0	0	151	0	0
0	0	0	242	151	0	83	0
0	0	0	0	0	83	0	230
0	0	0	0	0	0	230	0

The total weight of the graph is 1397