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Final Project: Prim’s Algorithm.

The idea behind the prim’s algorithm is simple. A spanning tree means that all vertices must be connected to each other. And they must be connected to each other with minimum weight.

For selecting mst (minimum spanning tree) steps:

1. You must pop all loops in graph
2. Then choose any arbitrary node as a root node. You can choose anyone. Because all nodes connected to each other, and you need to visit all of them with minimum cost.
3. Check all adjacent nodes with minimal weight.

In code sight I worked in this graph:

A picture containing text, clock

Description automatically generated

Firstly I created adjacency matrix of this graph and created e for number of edges and array[4] for the keeping track of visited vertices. I put all of vertices as false with memset function to the array[4]. Because nonen of them visited yet. And then I made true the first node for make it root node. I created while loop which repeats code for V-1 times. Min represents infinity. And then I created for loop for traversing through the rows and pick vertex. After picking vertex with if it checks that is it visited or not. Second for loop for tarversing through the columns and with if function it checks is this row visited and is number in mat[i][j] is zero or not. After that for getting minimum value again I created if function and with for loop it goes through the all columns except 0 in row and finds minimum value. Then where it finds minimum value such as in 3 column with for loop it goes to 3 row and again trys to find minimum again. And when it finds minimum value such as again in 3 column it changes false with true in array. Because this vertex is visited and don’t visit it again