```
#include <iostream>
#include <vector>
using namespace std;
const int MAX_COST = 999;
void primsMST(int n, vector<vector<int>>& cost)
{
vector<int> visit(n + 1, 0);
int mincost = 0;
int s;
cout << "Enter Starting Vertex (1 to " << n << "): ";
cin >> s;
visit[s] = 1;
cout << "Selected Edges in MST:" << endl;
for (int k = 1; k < n; ++k)
{
int min = MAX_COST;
int row, col;
for (int i = 1; i <= n; ++i)
{
if (visit[i] == 1) {
for (int j = 1; j <= n; ++j)
{
if (visit[j] == 0 && cost[i][j] != -1 && min > cost[i][j])
{
min = cost[i][j];
row = i;
col = j;
}
}
}
}
cout << "Edge: " << row << " - " << col << endl;
mincost += min;
visit[col] = 1;
cost[row][col] = -1;
cost[col][row] = -1;
}
cout << "Total Min Cost: " << mincost << endl;
}
int main()
{
int n;
cout << "Enter the number of cities: ";
cin >> n;
string cities[n];
for (int i = 0; i < n; i++)
{cout << "Enter city " << i + 1 << ": ";
cin >> cities[i];
}
vector<vector<int>> cost(n + 1, vector<int>(n + 1, 0));
for (int i = 1; i <= n; i++) {
for (int j = i + 1; j <= n; j++)
```

```
{
char op;
cout << "Is there an edge between " << cities[i - 1] << " and " << cities[j - 1] << " (y/n)? ";
cin >> op;
if (op == 'y' || op == 'Y')
{
cout << "Enter cost: ";
cin >> cost[i][j];
cost[j][i] = cost[i][j];
}
else {
cost[i][j] = cost[j][i] = -1;
}
}
}
primsMST(n, cost);
return 0;
}
```