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Assignment 7

Input Code :-

```
#include <iostream> using
namespace std;

int main() {
        int n, i, j, k, row, col, mincost=0, min;
        char op;
        cout<<"Enter no. of vertices: ";
        cin>>n;
        int cost[n][n];
int visit[n];
        for(i=0; i<n; i++)
                visit[i] = 0;
for(i=0; i<n; i++)
                for(int j=0; j<n; j++)
                        cost[i][j] = -1;
        for(i=0; i<n; i++)
        {
                for(j=i+1; j<n; j++)
                {
                        cout<<"Do you want an edge between "<<i+1<<" and "<<j+1<<": ";
                        cin>>op;
                        if(op=='y' || op=='Y')
                        {
                                cout<<"Enter weight: ";
                                cin>>cost[i][j];
                                cost[j][i] = cost[i][j];
                        }
                }
        }
        visit[0] = 1;
        for(k=0; k<n-1; k++)
        {
                min = 99999;
                for(i=0; i<n; i++)
                {
                        for(j=0; j<n; j++)
                        {
                                if(visit[i] == 1 && visit[j] == 0)
                                {
                                        if(cost[i][j] != -1 && min>cost[i][j])
                                        {
                                                min = cost[i][j];
                                                row = i;
                                                col = j;
                                        }
```

```
                                        }
                                    }
                                }

                                mincost += min;
visit[col] = 1;   cost[row][col] =
cost[col][row] = -1;   cout<<row+1<<"-
>"<<col+1<<endl;
            }

            cout<<"\nMin. Cost: "<<mincost;

            return 0;

}
```

Output:-

```
Enter no. of vertices: 5
Do you want an edge between 1 and 2: y
Enter weight: 6000
Do you want an edge between 1 and 3: y Enter
weight: 5000
Do you want an edge between 1 and 4: n
Do you want an edge between 1 and 5: y Enter
weight: 3000
Do you want an edge between 2 and 3: n
Do you want an edge between 2 and 4: y
Enter weight: 2000
Do you want an edge between 2 and 5: y
Enter weight: 9000
Do you want an edge between 3 and 4: y
Enter weight: 4000
Do you want an edge between 3 and 5: y
Enter weight: 8000
Do you want an edge between 4 and 5: y
Enter weight: 1000
1->5
5->4
4->2
4->3

Min. Cost: 10000
```