```
#include <iostream>
using namespace std;
int a[30][30], source, d[30], p[30]
void alg (int a[][30], int n){
    int s[n];
    for (int i=0; i<n; i++)
    {
        d[i] = a[source][i];
        p[i] = source;
        s[i] = 0;
    }
    s[source] = 1
    for(int c=0; c<n; c++)
    {
        int min = 999, u;
        for (int j=0; j<n; j++)
        {
            if (d[j] < min && s[j] != 1)
            {
                min = d[j]
                u = j;
            }
        }
        s[u] = 1;
        for (int i=0; i<n; i++)
        {
            if (min + a[u][i] < d[i])
            {
                d[i] = min + a[u][i]
                p[i] = u;
            }
        }
    }
```

printeXcel

```
int main()
{ int n;
  cout << "Enter no. of vertices"
  cin >> n;
  cout << " Enter adjacency matrix '
  for (int i=0; i<n; i++)
     for (j=0; j<n; j++){
        cin >> a[i][j];
     }
}
cout << "Enter source vertex ";
cin >> source
cout << "The shortest path is ";
alg(a, n)
for (int i=0; i<n; i++)
{   int k=i;
    while(k != source){
    { cout << k ~~!= source){~~ "<- ";
      ~~cout~~
      k = p[k];
    }
    cout << source << " = ";
    cout << d[i] << endl.
}
return 0;
```