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EX NO 14 DIJKSTRA'S ALGORITHM

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#include <stdio.h>
#define size 8
#define INFINITY 10000000;
int g[size][size]={ {0,2,6,0,0,0,0,0},
                    {2,0,0,2,6,0,0,0},
                    {6,0,0,1,0,0,4,0},
                    {0,2,1,0,0,2,0,0},
                    {0,6,0,0,0,3,0,1},
                    {0,0,0,2,3,0,2,0},
                    {0,0,0,2,0,2,0,2},
                    {0,0,0,0,1,0,2,0} };

struct vertex_info
{
    int length;
    int pred; char
    state; }v[size];

int main()
{ int i; for (i=0;i<size;i++)
    {
        v[i].length=INFINITY;
        v[i].pred=-1;
        v[i].state='N';
    }
    int s=0; int
    d=7;
    v[s].length=0
    ;
    v[s].state='V';

    do
    { int i; for(i=0;i<size;i++)
        { if (g[s][i]!=0 &&v[i].state=='N')
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        {
            if(v[i].length>v[s].length+g[s][i])
            {
                v[i].length=g[s][i]+v[s].length;
                v[i].pred=s;
            }
        }
        printf("\nlength[%d]=%d\tpred[%d]=%d",i,v[i].length,i,v[i].pred);
    }
}

int min=INFINITY; s=0;
for(i=0;i<size;i++)
{
    if(v[i].state=='N' && v[i].length<min)
    {
        min=v[i].length;
        s=i;
    }
}
v[s].state='V';
}while(s!=d); i=size;
int path[size];
printf("\n\nPath=%d-
>",s); do
{ path[i--]=s;
    s=v[s].pred; printf("%d-
>",s);
}while(s>0);
}

```