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EX NO: 14
PROGRAM NAME: GRAPH TRAVERSAL-DIJIKSTRA'S

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CODING:

```
#include<stdio.h>

# define SIZE 8

int
G[SIZE][SIZE]={{0,2,0,6,0,0,0,0},{2,0,2,0,0,7,0,0},{0,2,0,1,2,0,0,0},{6,0,1,0,0,0,0,4},
{0,0,2,0,0,3,0,2},{0,7,0,0,3,0,3,0},{0,0,0,0,0,3,0,2},{0,0,0,4,2,0,2,0}};

int
cor[SIZE][3]={{0,-1,1},{0,-1,0},{0,-1,0},{0,-1,0},{0,-1,0},{0,-1,0},{0,-1,0},{0,-1,0},{0,-
1,0}};

void backtrack(){
   int i=6;
   while(i>=0){
      printf("%d->",i);
      i=cor[i][1];
   }
}
void dijikstra(){
   int i=0,min=100,p,val;
  while(i!=6){
   min=100;
```

```
for(int j=0;j<8;j++){
   if(G[i][j]>=1 && cor[j][2]!=1){ //for minimum find
      if(G[i][j]<min){
         min=G[i][j];
         p=j;
      }
   }
}

for(int j=0;j<8;j++){
   if(G[i][j]>=1 && cor[j][2]!=1){
      val=cor[i][0]+G[i][j];
     if(cor[j][0]>val || cor[j][1]==-1){
      cor[j][1]=i;
      cor[j][0]=cor[i][0]+G[i][j];
     }
     else{
      if(j==p){
        cor[i][2]=0;
        break;
      }
     }
   }
}
```

```
    cor[p][2]=1;
    i=p;
   }
   backtrack();

}

int main(){
   dijikstra();
}
```

OUTPUT:

```
6->7->4->2->1->0->
Process returned 0 (0x0)   execution time : 1.024 s
Press any key to continue.
```