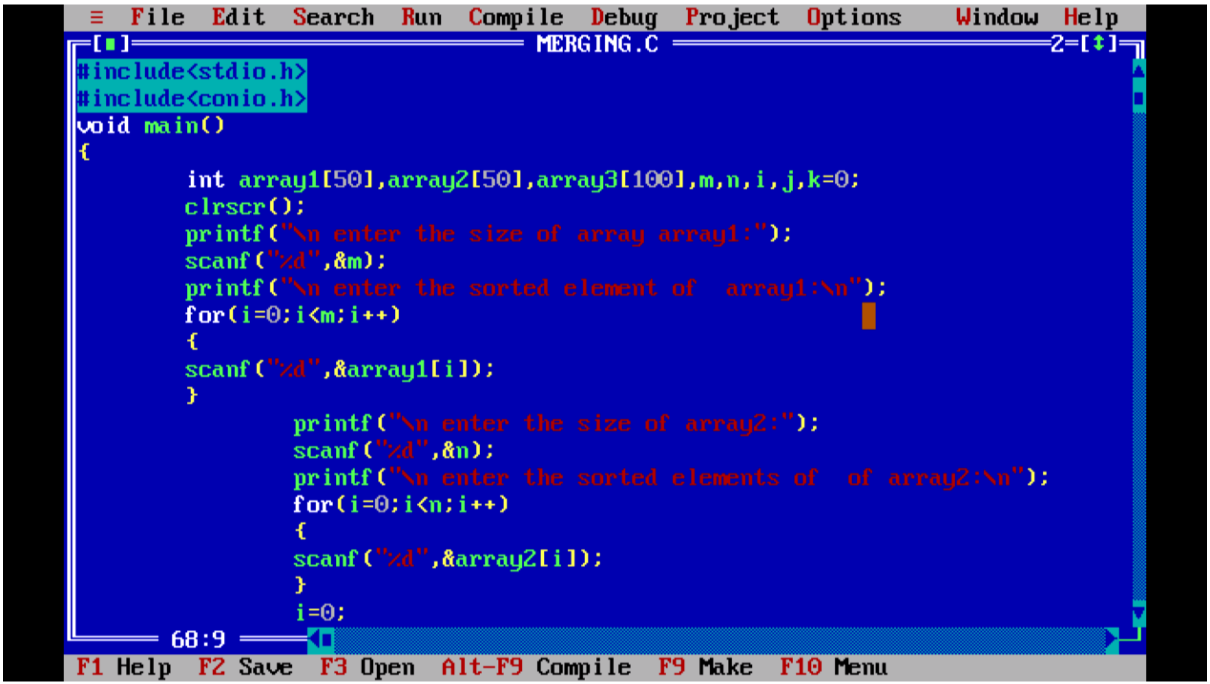
1. **Merging of two sorted Array**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[■]
MERGING.C
2=[↕]
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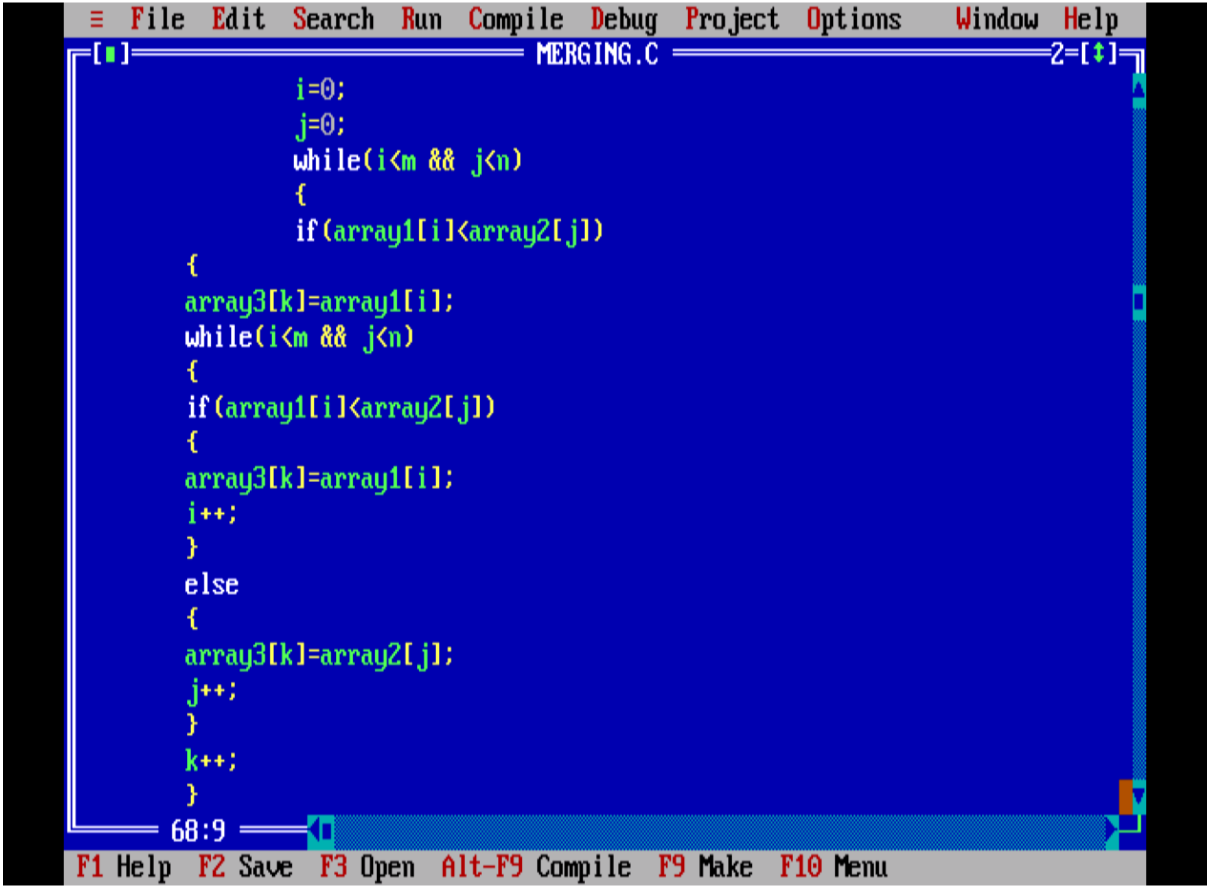
```
#include<stdio.h>
#include<conio.h>
void main()
{
        int array1[50],array2[50],array3[100],m,n,i,j,k=0;
        clrscr();
        printf("\n enter the size of array array1:");
        scanf("%d",&m);
        printf("\n enter the sorted element of  array1:\n");
        for(i=0;i<m;i++)
        {
        scanf("%d",&array1[i]);
        }
                printf("\n enter the size of array2:");
                scanf("%d",&n);
                printf("\n enter the sorted elements of  of array2:\n");
                for(i=0;i<n;i++)
                {
                scanf("%d",&array2[i]);
                }
                i=0;
```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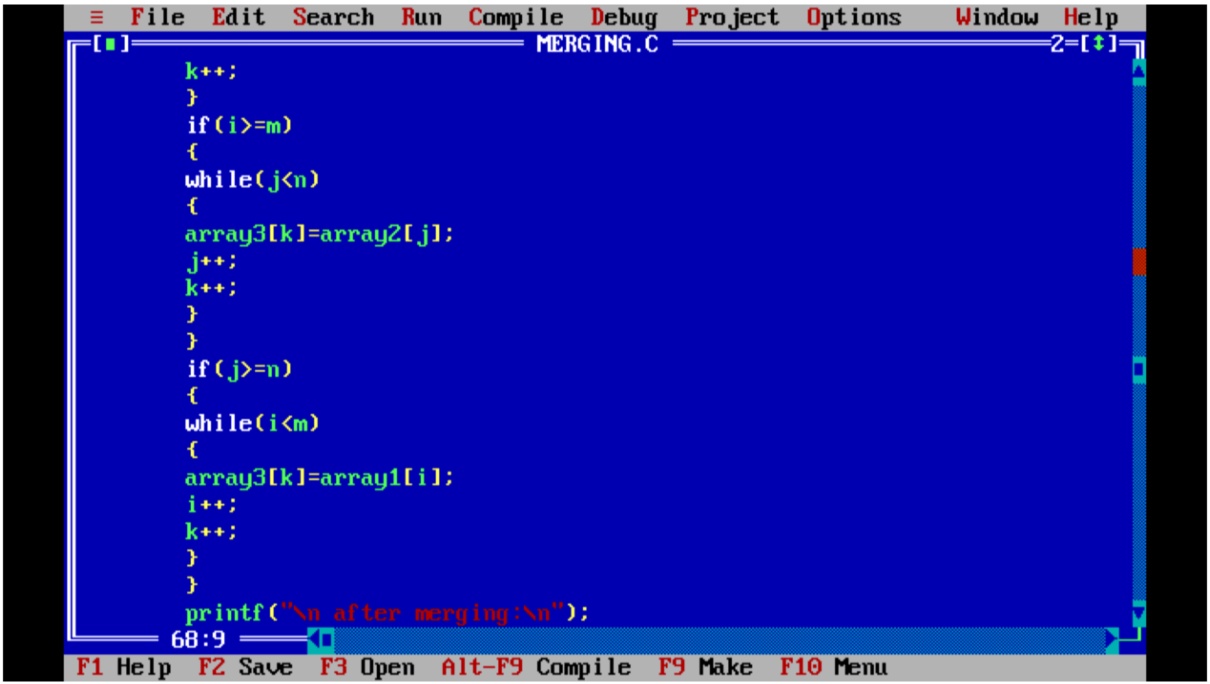
```
                i=0;
                j=0;
                while(i<m && j<n)
                {
                if(array1[i]<array2[j])
        {
        array3[k]=array1[i];
        while(i<m && j<n)
        {
        if(array1[i]<array2[j])
        {
        array3[k]=array1[i];
        i++;
        }
        else
        {
        array3[k]=array2[j];
        j++;
        }
        k++;
        }
```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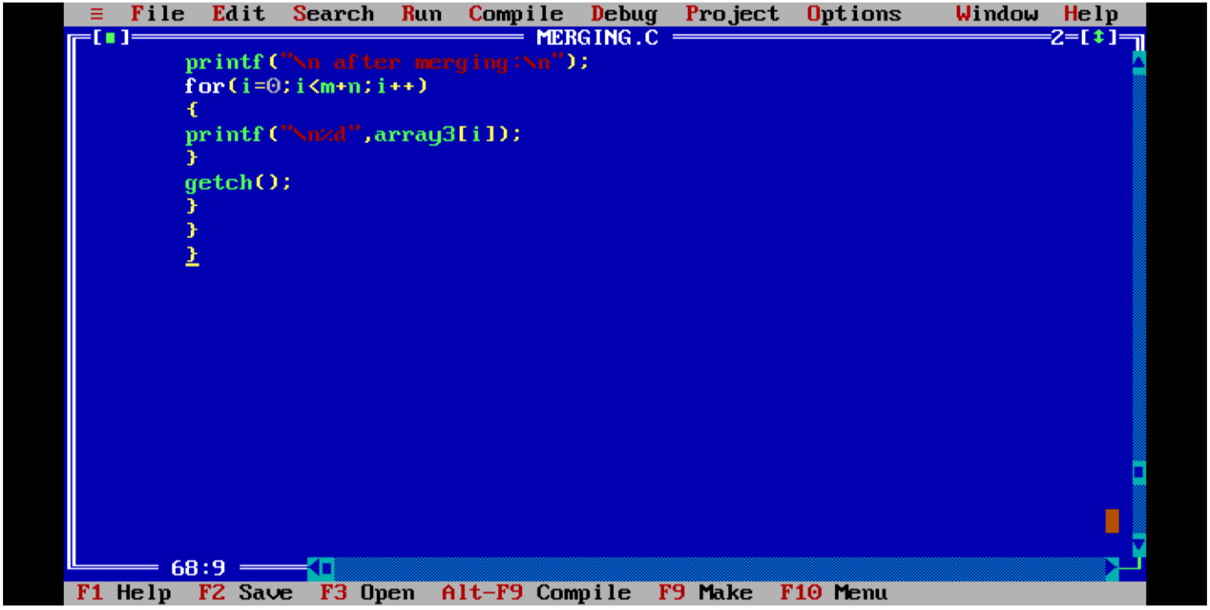
```
k++;
}
if(i>=m)
{
while(j<n)
{
array3[k]=array2[j];
j++;
k++;
}
}
if(j>=n)
{
while(i<m)
{
array3[k]=array1[i];
i++;
k++;
}
}
printf("\n after merging:\n");
```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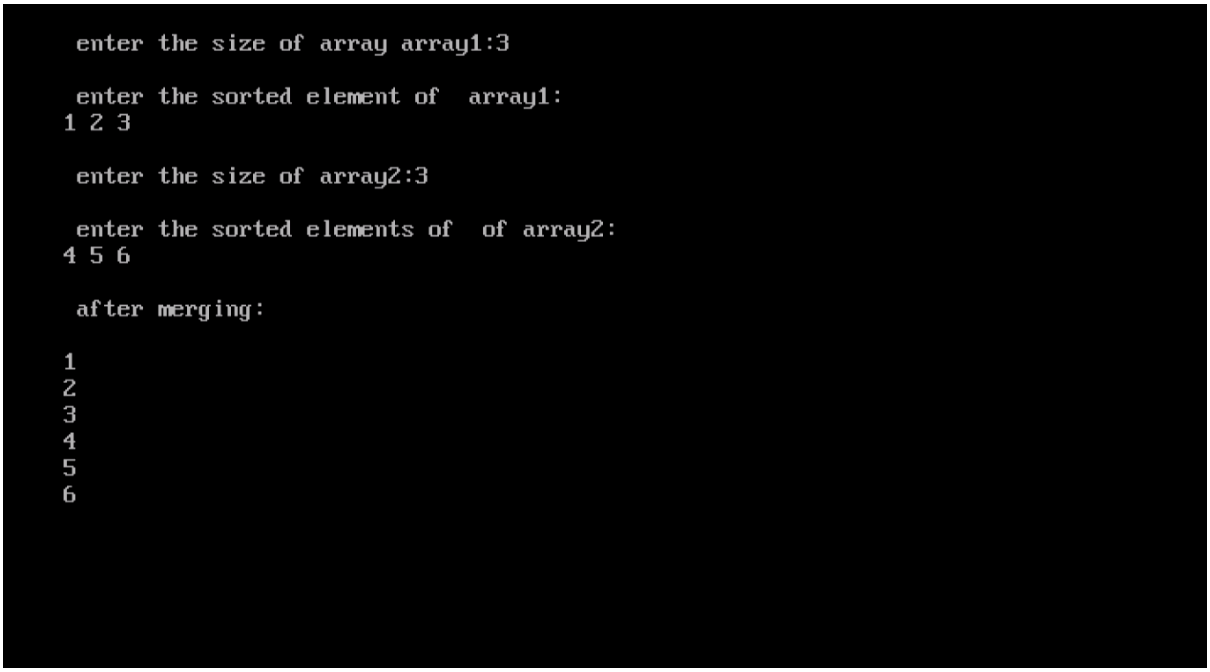
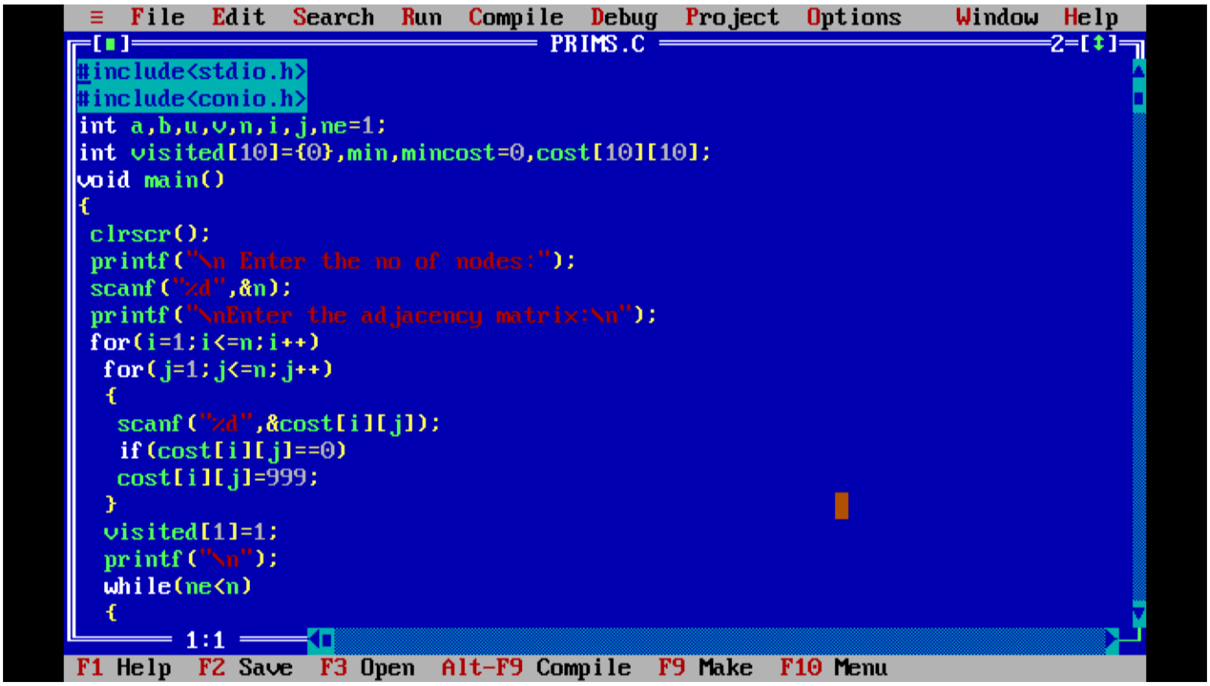
```
printf("\n after merging:\n");
for(i=0;i<m+n;i++)
{
printf("\n%d",array3[i]);
}
getch();
}
}
}
```

OUTPUT:



```
 enter the size of array array1:3

 enter the sorted element of  array1:
1 2 3

 enter the size of array2:3

 enter the sorted elements of  of array2:
4 5 6

 after merging:

1
2
3
4
5
6
```

2. Implement Prims algorithm



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[■] PRIMS.C 2=[↕]
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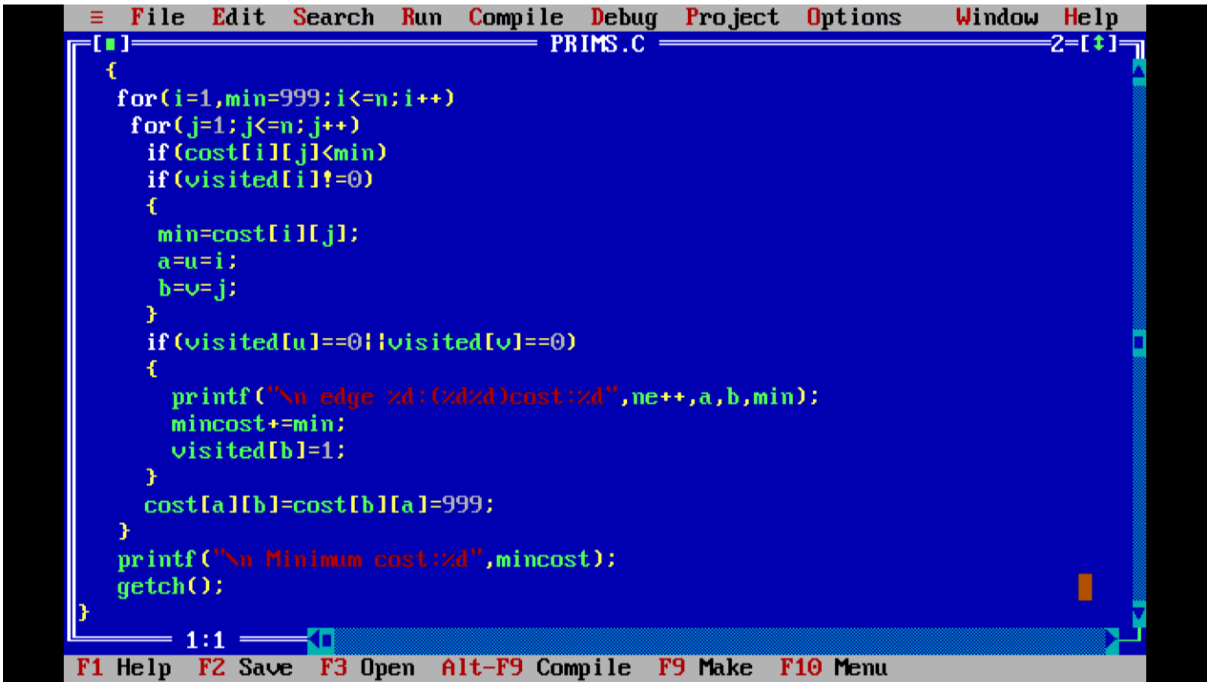
```
#include<stdio.h>
#include<conio.h>
int a,b,u,v,n,i,j,ne=1;
int visited[10]={0},min,mincost=0,cost[10][10];
void main()
{
 clrscr();
 printf("\n Enter the no of nodes:");
 scanf("%d",&n);
 printf("\nEnter the adjacency matrix:\n");
 for(i=1;i<=n;i++)
  for(j=1;j<=n;j++)
  {
   scanf("%d",&cost[i][j]);
   if(cost[i][j]==0)
   cost[i][j]=999;
  }
  visited[1]=1;
  printf("\n");
  while(ne<n)
  {
```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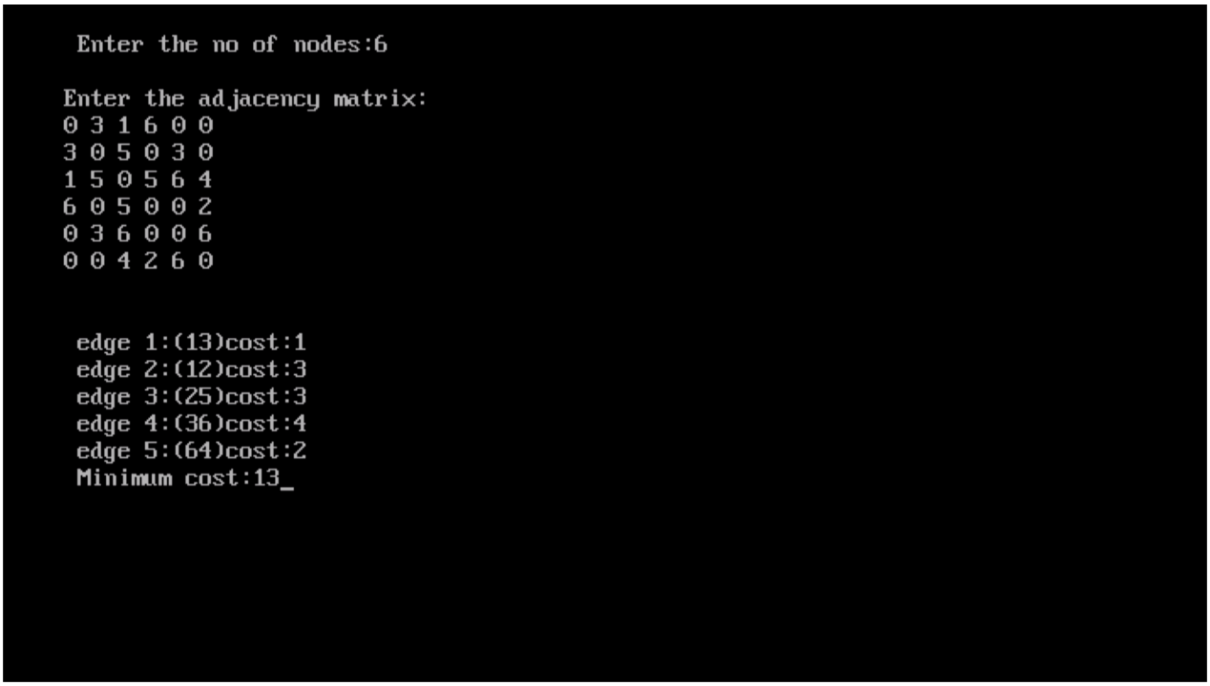
```
  {
   for(i=1,min=999;i<=n;i++)
    for(j=1;j<=n;j++)
     if(cost[i][j]<min)
     if(visited[i]!=0)
     {
      min=cost[i][j];
      a=u=i;
      b=v=j;
     }
     if(visited[u]==0||visited[v]==0)
     {
       printf("\n edge %d:(%d%d)cost:%d",ne++,a,b,min);
       mincost+=min;
       visited[b]=1;
     }
     cost[a][b]=cost[b][a]=999;
   }
   printf("\n Minimum cost:%d",mincost);
   getch();
}
```

Output:



```
 Enter the no of nodes:6

Enter the adjacency matrix:
0 3 1 6 0 0
3 0 5 0 3 0
1 5 0 5 6 4
6 0 5 0 0 2
0 3 6 0 0 6
0 0 4 2 6 0


 edge 1:(13)cost:1
 edge 2:(12)cost:3
 edge 3:(25)cost:3
 edge 4:(36)cost:4
 edge 5:(64)cost:2
 Minimum cost:13_
```