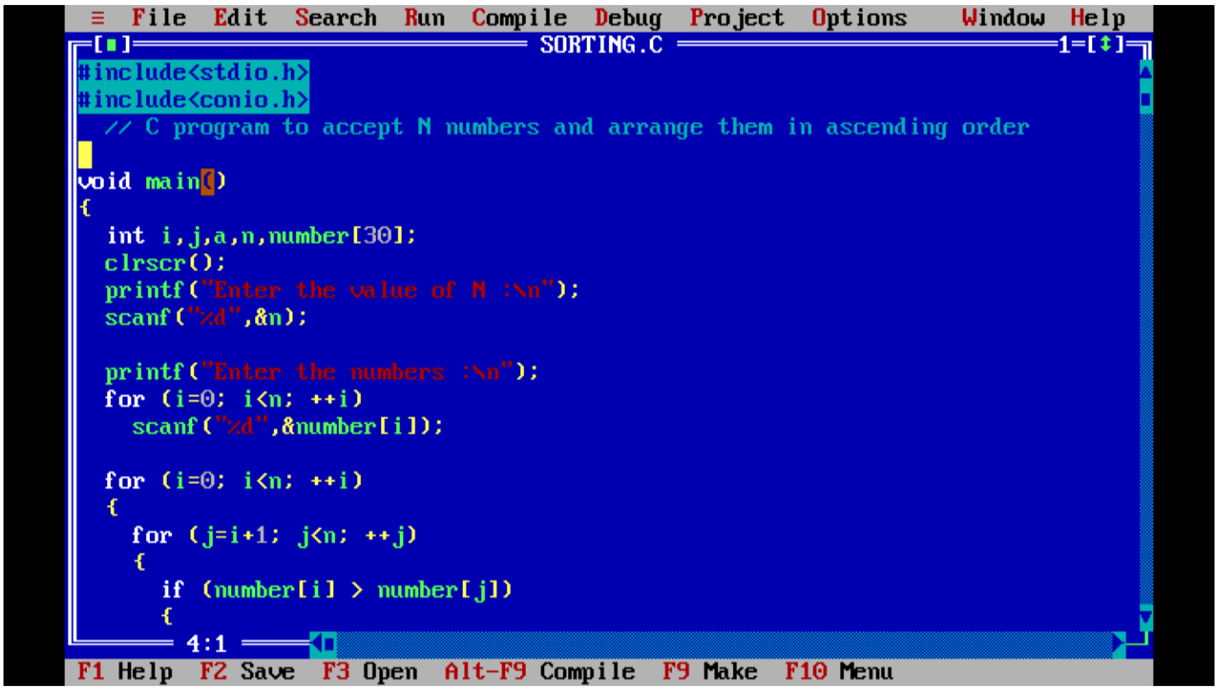
1. Sorting of an integer array

Program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SORTING.C
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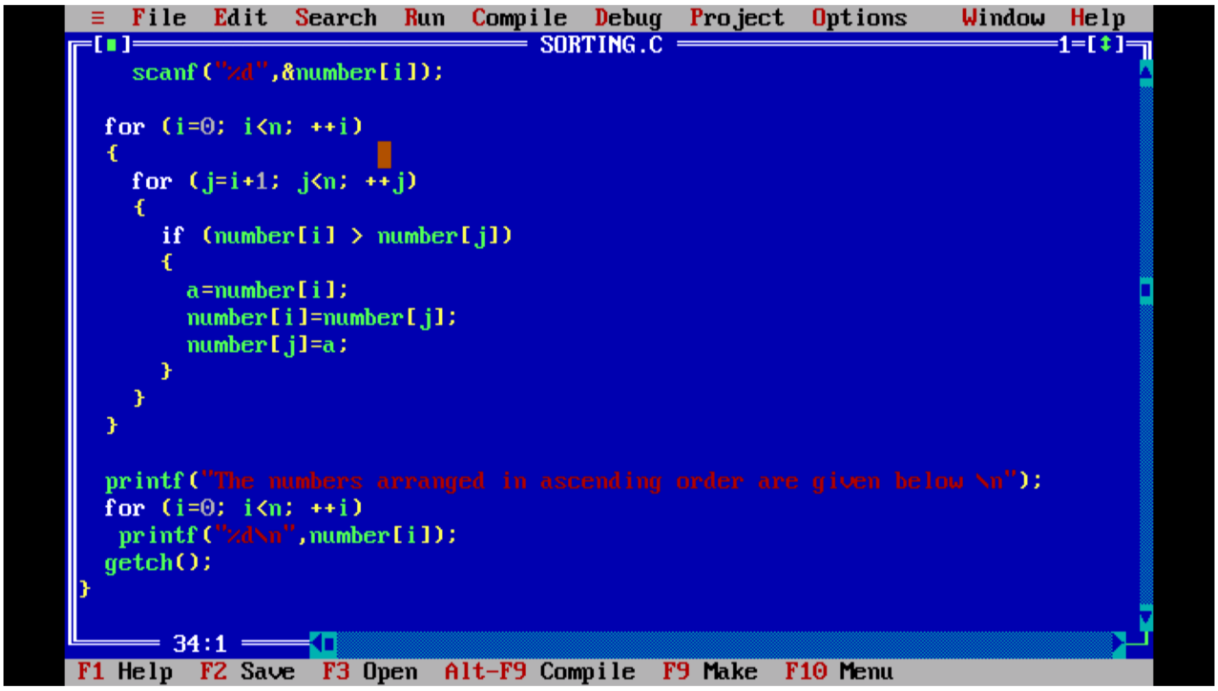
```
#include<stdio.h>
#include<conio.h>
  // C program to accept N numbers and arrange them in ascending order

void main()
{
  int i,j,a,n,number[30];
  clrscr();
  printf("Enter the value of N :\n");
  scanf("%d",&n);

  printf("Enter the numbers :\n");
  for (i=0; i<n; ++i)
    scanf("%d",&number[i]);

  for (i=0; i<n; ++i)
  {
    for (j=i+1; j<n; ++j)
    {
      if (number[i] > number[j])
      {
```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SORTING.C
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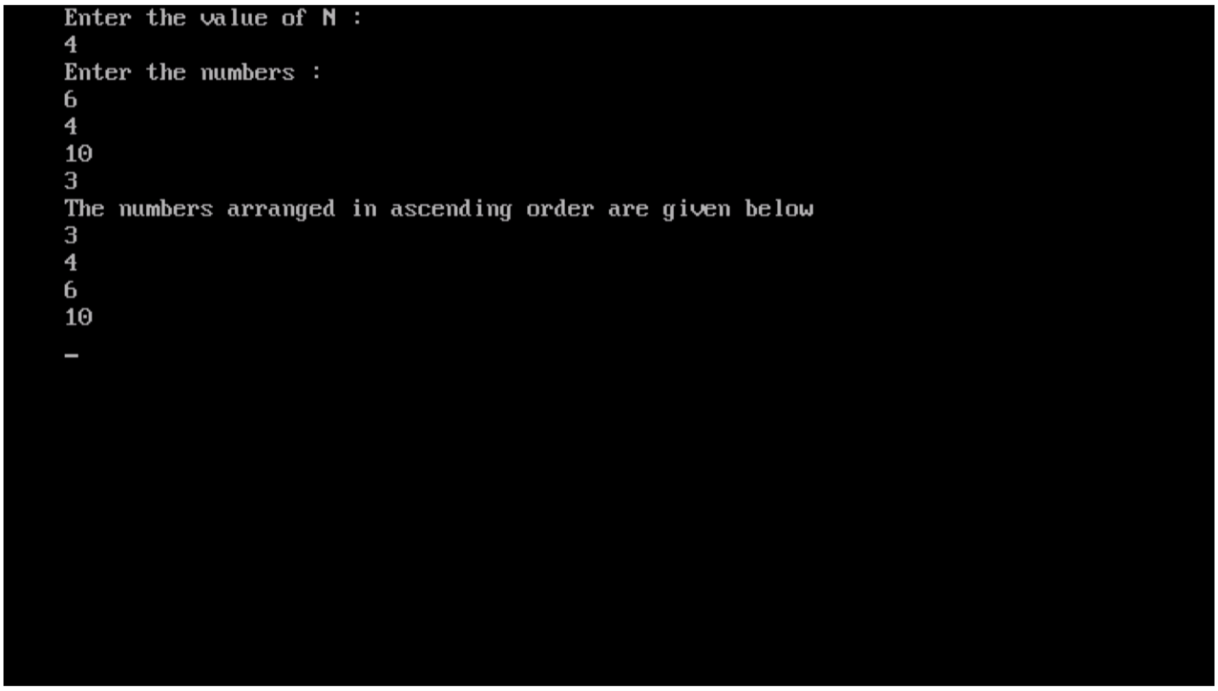
```
    scanf("%d",&number[i]);

  for (i=0; i<n; ++i)
  {
    for (j=i+1; j<n; ++j)
    {
      if (number[i] > number[j])
      {
        a=number[i];
        number[i]=number[j];
        number[j]=a;
      }
    }
  }

  printf("The numbers arranged in ascending order are given below \n");
  for (i=0; i<n; ++i)
   printf("%d\n",number[i]);
  getch();
}
```

Output

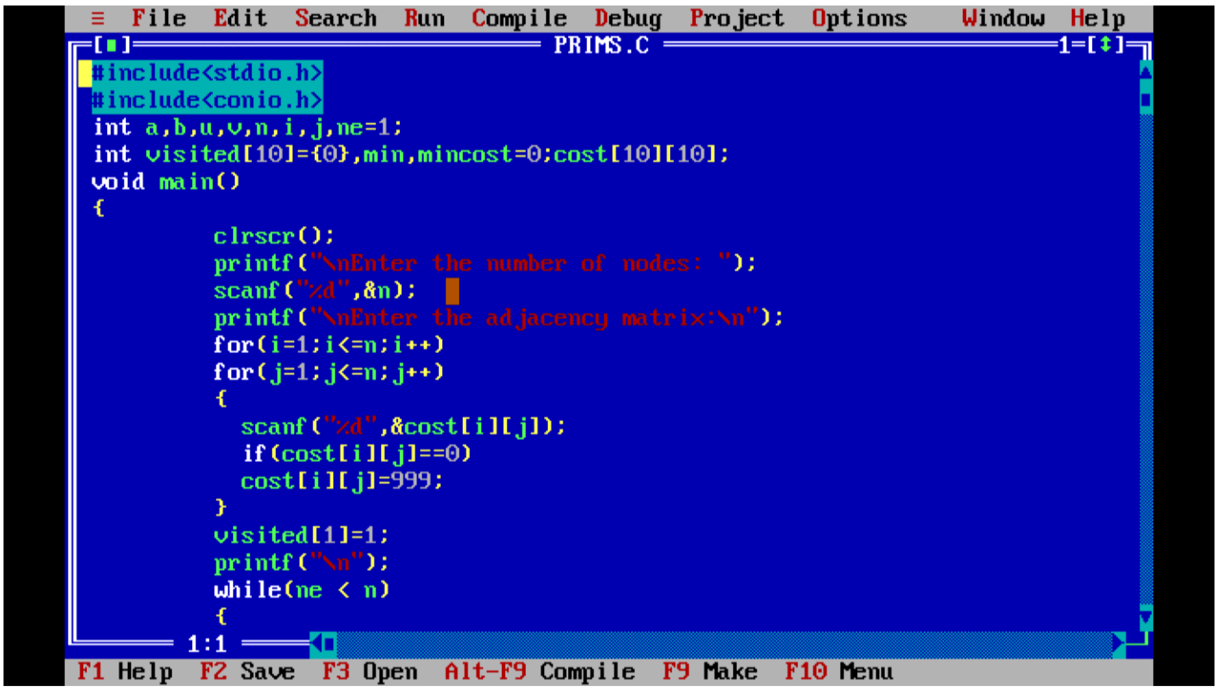


```
Enter the value of N :
4
Enter the numbers :
6
4
10
3
The numbers arranged in ascending order are given below
3
4
6
10

_
```

2. Implementation of Prim's algorithm

Program



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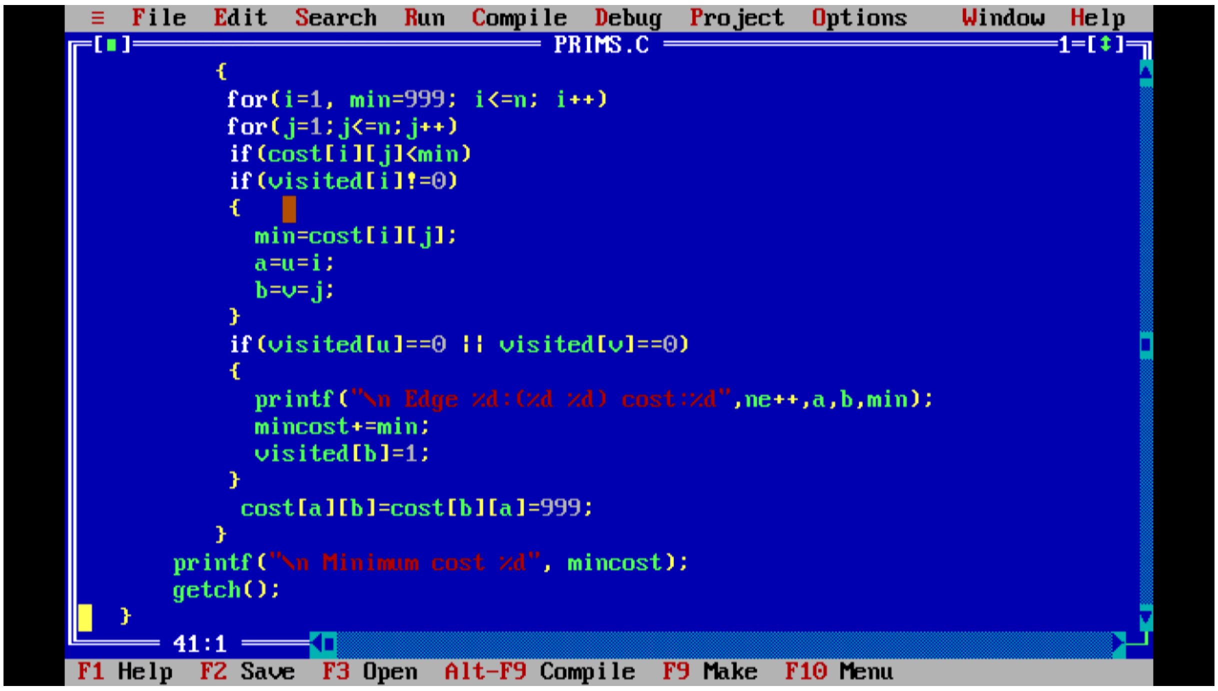
PRIMS.C
1:1
F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu

```
#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("\nEnter the number 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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PRIMS.C
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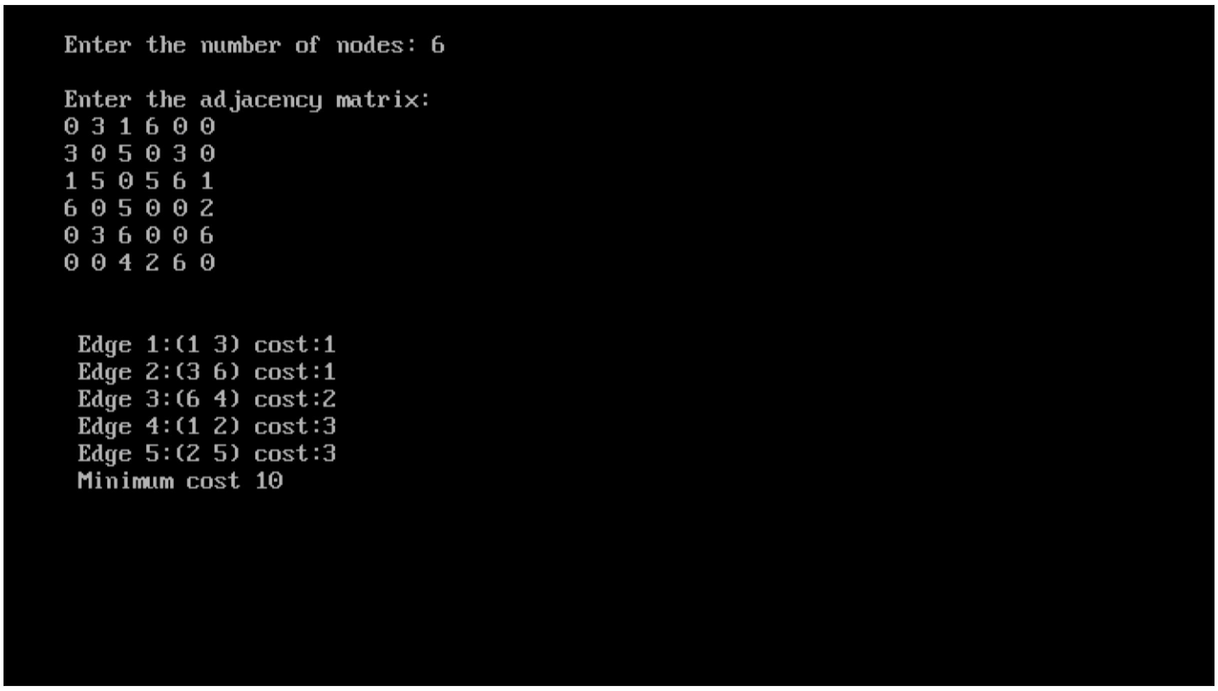
F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu

```
          {
           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 number of nodes: 6

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


 Edge 1:(1 3) cost:1
 Edge 2:(3 6) cost:1
 Edge 3:(6 4) cost:2
 Edge 4:(1 2) cost:3
 Edge 5:(2 5) cost:3
 Minimum cost 10
```