01knapsack.c | prims.c | kruskals.c

prims.c

```c
/*To find Minimum Spanning tree using Prim's algorithm*/
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void prims();
int cost[10][10];
int vis[10], vt[10], et[10][10],e=0,
i,j,k,u,v;
int sum=0;
int n,m;
void main()
{
printf("Enter the number of vertices\n");
scanf("%d", &n);
printf("Enter the cost of adjacency matrix\n");
for(i=1;i<=n;i++)
{
    for(j=1;j<=n;j++)
    {
      scanf("%d", &cost[i][j]);
    }
}
prims();
printf("Minimum Spanning Tree\n");
for(i=1;i<e;i++)
{
printf("%d->%d  ", et[i][1],et[i][2]);
}
printf("\nTotal Cost = %d",sum);
getch();
}

void prims()
{
   int x=1, min;
   vt[x]=1;
   vis[x]=1;
   for(i=1;i<n;i++)
```

prims.c

```c
printf("\nTotal Cost = %d",sum);
getch();
}

void prims()
{
    int x=1, min;
    vt[x]=1;
    vis[x]=1;
    for(i=1;i<n;i++)
    {
        j=x;
        min=999;
        while(j>0)
        {
           k=vt[j];
           for(m=2;m<=n;m++)
           {
             if(cost[k][m]<min && vis[m]==0)
             {
               min=cost[k][m];
               u=k;
               v=m;
             }
           }
           j--;
        }
        vt[++x]=v;
        et[i][1]=u;
        et[i][2]=v;
        e++;
        vis[v]=1;
        sum=sum+cost[u][v];
    }
}
```

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prims.c

```
29    printf("\nTotal Cost = %d",sum);
30    getch();
31    }
32
33    void prims()
34    {
35        int x=1, min;
36        vt[x]=1;
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

powershell

```
0       10      12      22      22      22
0       10      12      22      30      32
0       10      15      25      30      37
Optimal Solution=37
Objects Selected are:
1 2 4
PS C:\Users\muska\OneDrive\Desktop\C programs> gcc prims.c
PS C:\Users\muska\OneDrive\Desktop\C programs> .\a.exe
Enter the number of vertices
6
Enter the cost of adjacency matrix
0 3 999 999 6 5
3 0 1 999 999 4
999 1 0 6 999 4
999 999 6 0 8 5
6 999 999 8 0 2
5 4 4 5 2 0
Minimum Spanning Tree
1->2  2->3  3->6  6->5
Total Cost = 15
PS C:\Users\muska\OneDrive\Desktop\C programs>
```