Prim演算法

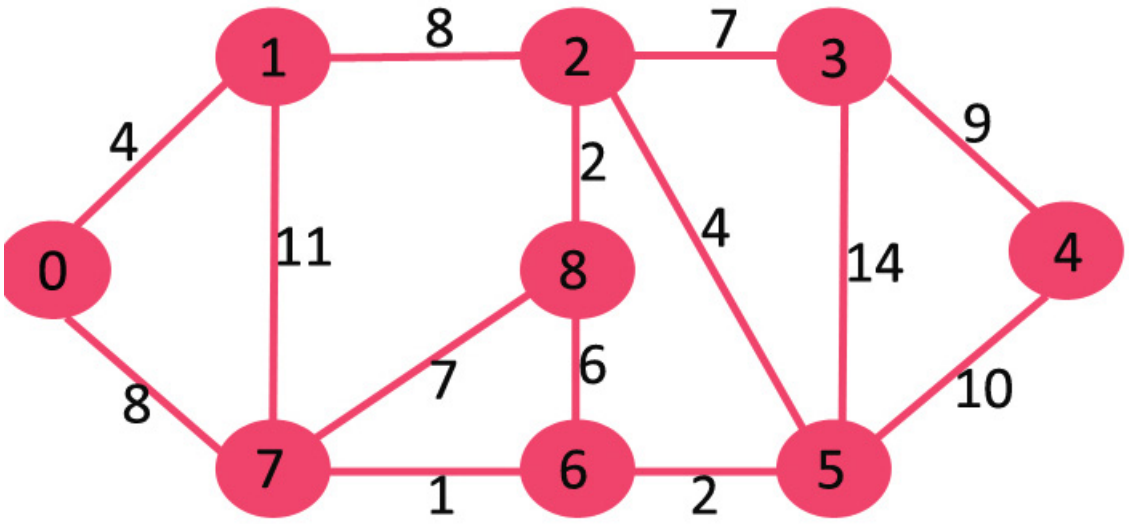
Description

請用Prim演算法實作最小生成樹

採取貪心策略從設定的頂點中尋找最小權重的鄰點

並將權重總和結果輸出

頂點統一為0



Input

第一列輸入幾個節點 和幾條邊

輸入兩個節點表示指定邊 下一步輸入其權重

以上過程結束條件為邊權輸入完成

再來持續回到上一部輸入節點數量和邊

直到輸入0 0結束

Output

權重總和

Sample Input 1

```
9 14
0 1 4
0 7 8
1 7 11
1 2 8
2 3 7
2 5 4
2 8 2
3 4 9
3 5 14
4 5 10
5 6 2
6 7 1
6 8 6
7 8 7
0 0
```

Sample Output 1

```
37
```

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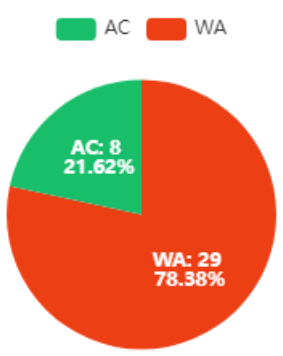
Information

ID	122102
Time Limit	3000MS
Memory Limit	512MB
IO Mode	Standard IO
Created By	m0968390
Level	Low
Tags	Show

Statistic Details



Language: C Theme: Solarized Light

```c
#include<stdio.h>
#include<stdlib.h>
int SIZE;
int matrix[100][100];
int mark[100];
void prim(void);
int e,v;
int main(){
    int I,J,W;
    int i,j;
    int first=1;
    scanf("%d %d%*c",&SIZE,&e);
    while(SIZE!=0&&e!=0){
        if(first==0)printf("\n");
```

```
18              matrix[i][j]=-1;
19          }
20          }
21          for(i=0;i<e;i++){
22          scanf("%d %d %d%*c",&I,&J,&W);
23          matrix[I][J]=W;
24          matrix[J][I]=W;
25          }
26          prim();
27          first=0;
28          scanf("%d %d%*c",&SIZE,&e);
29      }
30
31      /*for(i=0;i<SIZE;i++){
32          for(j=0;j<SIZE;j++){
33              printf("%d\t",matrix[i][j]);
34          }
35          printf("\n");
36      }*/
37
38      return 0;
39  }
40  void prim(void){
41      int i,j,min=10000000,minsum=0,m,min_index=0,k;
42      mark[0]=1;
43      //printf("0 ");
44      for(k=0;k<SIZE-1;k++){
45          for(i=0;i<SIZE;i++){
46              if(mark[i]==1){
47                  for(j=0;j<SIZE;j++){
48                      if(matrix[i][j]<min&&mark[j]!=1&&matrix[i][j]!=-1){
49                          min=matrix[i][j];
```

You have solved the problem

Submit