Grafos II

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Problemas

URI 1931 - Mania de Par
https://www.urionlinejudge.com.br/judge/pt/problems/view/1931

URI 1610 - Dudu Faz Serviço
https://www.urionlinejudge.com.br/judge/pt/problems/view/1610

URI 1148 - Países em Guerra
https://www.urionlinejudge.com.br/judge/pt/problems/view/1148

URI 1931 - Mania de Par

```
#include <bits/stdc++.h>
using namespace std;

#define for_each(it,x) for(vector<state>::iterator it=x.
begin(); it!=x.end(); ++it)

struct state{
    int vertex, weight;
};

class mycomparison{
    bool reverse;
public:
    mycomparison(const bool& revparam=false)
        {reverse=revparam;}
    bool operator() (const state& lhs, const state&rhs)
const{
        return (reverse) ? (lhs.weight>rhs.weight) : (lhs.
weight<rhs.weight);
    }
};
```

```
const int INFINITO = 0x3f3f3f3f, MAXV = 10000;
vector<state> graph[MAXV], aux[MAXV];
int dist[MAXV], c, v;

void connect(int i, int j, int k){
    graph[i-1].push_back((state){j-1,k});
        graph[j-1].push_back((state){i-1,k});
}
```

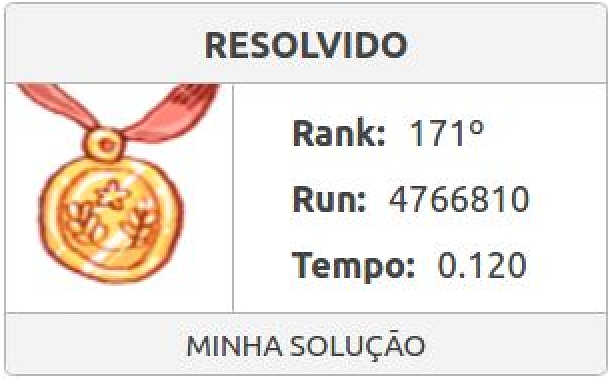
URI 1931 - Mania de Par

```
void constructEvenGraph(){
    for(int i=0; i<c; i++){
        for_each(it1,graph[i]){
            for_each(it2,graph[it1->vertex]){
                if(i!=it2->vertex)
aux[i].push_back((state){it2->vertex,it1->weight+it2->weight});
            }
        }
    }
}
```

```
void dijkstra(int source){
    memset(dist,INFINITO,sizeof(dist));
    dist[source-1] = 0;
    priority_queue<state,vector<state>,mycomparison>
    q(mycomparison(true));
    q.push((state){source-1,0});
    while(!q.empty()){
        state top = q.top(); q.pop();
        if(top.weight>dist[top.vertex]) continue;
        for_each(it,aux[top.vertex]){
        int alt = dist[top.vertex]+it->weight;
        if(alt<dist[it->vertex])
            q.push((state){it->vertex,dist[it->vertex]=alt});
        }
    }
}
```

URI 1931 - Mania de Par

```
int main(){
    int i, j, k;
    cin >> c >> v;
    while(v--){
        cin >> i >> j >> k;
        connect(i,j,k);
    }
    constructEvenGraph();
    dijkstra(1);
    cout << ((dist[c-1]==INFINITO) ? -1 : dist[c-1]) << endl;
    return 0;
}
```



RESOLVIDO

Rank: 171º

Run: 4766810

Tempo: 0.120

MINHA SOLUÇÃO