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#include<bits/stdc++.h>
using namespace std;
unordered_map<int,int>vis;
int counter=1;
int comparison=0;
int assignment=5;
priority_queue<pair<int,pair<int,int>>,vector<pair<int,pair<int,int>>>,greater<pair<int,pair<int,int
>>>>q;
ofstream MyFile2("comp.txt");
ofstream MyFile1("assign.txt");
int ans=0,E=0;
int  Krukshal(int Node){
        while(!q.empty())
  {     comparison+=1;
        if(E<Node-1){
        comparison+=1;
        if(vis[q.top().second.first]==vis[q.top().second.second] &&
vis[q.top().second.second]==0){
                ans+=q.top().first;
                E++;
                vis[q.top().second.first]=counter;
                vis[q.top().second.second]=counter;
        counter++;
        assignment+=2;
        comparison+=2;
        }
        else if(vis[q.top().second.first]!=vis[q.top().second.second]){
        ans+=q.top().first;
        assignment+=1;
        comparison+=1;
        if(vis[q.top().second.first]==0)
        vis[q.top().second.first]=vis[q.top().second.second];
        else if(vis[q.top().second.second]==0)
        vis[q.top().second.second]=vis[q.top().second.first];
        else if(vis[q.top().second.second]<vis[q.top().second.first]){
                for(auto i:vis){
                if(i.second==vis[q.top().second.first])
                        i.second=vis[q.top().second.second];
                }
        }
        else {
                for(auto i:vis){
                if(i.second==vis[q.top().second.second])
                        i.second=vis[q.top().second.first];
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                }
        }
        assignment+=1;
        comparison+=1;
        }
        q.pop();
        }
        else
        break;
  }

return ans;
}
int main(){
for(int i=0;i<3;i++){
   int edges;
   cin>>edges;
   int node;
   cin>>node;
   for(int j=0;j<edges;j++){
        int u,v,w;
        u=(rand()%node)+1;
        v=(rand()%node)+1;
        w=rand()%10;
        q.push(make_pair(w,make_pair(u,v)));
}

cout<<Krukshal(node)<<endl;
MyFile2<< edges <<"  "<<comparison<<endl;
MyFile1<< edges<<" "<< assignment<<endl;

cout<<"Comparison :"<<comparison<<endl;
cout<<"Assignment :"<<assignment<<endl;
}

}

student@student-HP-EliteDesk-800-G1-TWR:~/Desktop/2020ITB043$ ./a.out
7
8
38
Comparison :28
Assignment :19
9 8
```

49
Comparison :54
Assignment :27
9 5
62
Comparison :80
Assignment :35