

# Week 2 Programming Assignment - Moving Intervals

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#include<bits/stdc++.h>

using namespace std;

#define int long long int

int32_t main(){

    ios::sync_with_stdio(false);
    cin.tie(0);

    int c,n,k;
    cin>>c>>n>>k;

    vector<pair<int,int> >v;
    for(int i=0;i<n;++i){
        int a,b;
        cin>>a>>b;
        v.push_back({a,b});
    }

    sort(v.begin(),v.end());

    if(k==0){
        int cnt=0;
        for(int i=0;i<v.size()-1;++i){
            for(int j=i+1;j<v.size();++j){
                if(v[i].second<v[j].first)break;
                cnt++;
            }
        }
    }
```

```

    if(cnt)cout<<"Bad\n";
    else cout<<"Good\n";
}
else{
    vector<int> gap;

    gap.push_back(v[0].first-2);
    gap.push_back(c-(v[v.size()-1].second+1));

    for(int i=0;i<v.size()-1;++i){
        gap.push_back(v[i+1].first-v[i].second-1);
    }
}

```

```

int cnt=0;
vector<int> bad;
for(int i=0;i<v.size()-1;++i){
    for(int j=i+1;j<v.size();++j){
        if(v[i].second<v[j].first)break;
        else{
            bad.push_back(v[i].second-v[j].first);
            cnt++;
            break;
        }
    }
}
}

```

```

if(cnt==0){
    cout<<"Good\n";
    return 0;
}

```

```
if(bad.size()>1){  
    cout<<"Bad\n";  
}  
else{  
    int a=bad[0];  
    for(int i: gap){  
        if(i>=a){  
            cout<<"Good\n";  
            return 0;  
        }  
    }  
    cout<<"Bad\n";  
}  
}  
return 0;  
}
```