

# Team notebook

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## Contents

1	Graphs	1
1.1	kosaraju	1

## 1 Graphs

### 1.1 kosaraju

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```
#include <bits/stdc++.h>
using namespace std;
//choose MAXN according to the problem.
const int MAXN = 100005;
vector<int> g[MAXN],gr[MAXN];
bool vis[MAXN];
stack<int> tp;
int n,m;
int scc = 0;
void dfs(int x){
    vis[x]=1;
    for(vector<int>::iterator it = g[x].begin(); it!=g[x].end(); ++it){
        int y = *it;
        if(!vis[y])
            dfs(y);
    }
    tp.push(x);
}
void dfs2(int x){
    vis[x]=1;
    for(vector<int>::iterator it = gr[x].begin(); it!=gr[x].end();
        ++it){
        int y = *it;
```

```
        if(!vis[y])
            dfs2(y);
    }
}
int main(){
    //read graph.
    //kosaraju
    memset(vis,0,sizeof(vis));
    for(int i = 0; i<n; i++)
        if(!vis[i])
            dfs(i);
    memset(vis,0,sizeof(vis));
    while(!tp.empty()){
        int x = tp.top();
        tp.pop();
        if(!vis[x]){
            scc++;
            dfs2(x);
            //do extra things like graph condensation.
        }
    }
    return 0;
}
```

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