

# 图论基础

## 并查集判断图的连通性

```
auto judge = [&]() -> bool {  
    vector<int> fa(n + 10);  
    for(int i = 1; i <= n; i++) fa[i] = i;  
    auto find = [&](auto self, int x) -> int {return fa[x] = (fa[x] == x ? fa[x] : self(self, fa[x]));};  
    auto merge = [&](int x, int y) -> void {fa[find(self, x)] = find(self, y); return ;};  
    for(int i = 1; i <= n; i++) for(auto v : ng[i]) merge(i, v);  
    int ans = 0;  
    for(int i = 1; i <= n; i++) ans += find(self, i) == i;  
    return ans != 1;  
};
```

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