最近公共祖先(LCA)

DFS部分

```cpp
void dfs(int now, int fa)
{
    depth[now] = depth[fa] + 1;
    father[now][0] = fa;
    for (int i = 1; (1 << i) <= depth[now]; ++i)
        father[now][i] = father[father[now][i - 1]][i - 1];
    for (int next : g[now])
        if (next != fa)
            dfs(next, now);
}
```

查询LCA部分

```cpp
int lca(int x, int y)
{
    if (depth[x] < depth[y])
        swap(x, y);
    for (int i = 22; i >= 0; --i)
    {
        if (depth[father[x][i]] >= depth[y])
            x = father[x][i];
    }
    if (x == y)
        return x;
    for (int i = 22; i >= 0; --i)
    {
        if (father[x][i] != father[y][i])
        {
            x = father[x][i];
            y = father[y][i];
        }
    }
    return father[x][0];
}
```