标签 上下界网络流 下的文章

「AHOI 2014」支线剧情 (https://blog.orzsiyuan.com/archives/AHOI-2014-Branch-Line-Plot/)

> 题目链接：LOJ 2226 (https://loj.ac/problem/2226)

宅男 JYY 非常喜欢玩 RPG 游戏，比如仙剑，轩辕剑等等。不过 JYY 喜欢的并不是战斗场景，而是类似电视剧一般的充满恩怨情仇的剧情。这些游戏往往都有很多的支线剧情，现在 JYY 想花费最少的时间看完所有的支线剧情。

JYY 现在所玩的 RPG 游戏中，一共有 n 个剧情点，由 1 到 n 编号，第 i 个剧情点可以根据 JYY 的不同的选择，而经过不同的支线剧情，前往 K_i 种不同的新的剧情点。当然 K_i 如果为 0，则说明 i 号剧情点是游戏的一个结局了。

JYY 观看一个支线剧情需要一定的时间。JYY 一开始处在 1 号剧情点，也就是游戏的开始。显然任何一个剧情点都是从 1 号剧情点可达的。此外，随着游戏的进行，剧情是不可逆的。所以游戏保证从任意剧情点出发，都不能再回到这个剧情点。

由于 JYY 过度使用修改器，导致游戏的「存档」和「读档」功能损坏了，所以 JYY 要想回到之前的剧情点，唯一的方法就是退出当前游戏，并开始新的游戏，也就是回到 1 号剧情点。JYY 可以在任何时刻退出游戏并重新开始。

不断开始新的游戏重复观看已经看过的剧情很是痛苦，JYY 希望花费最少的时间，看完所有不同的支线剧情。

数据范围：$1 \le n \le 300$，$0 \le K_i \le 50$，$\sum_{ni=1} K_i \le 5000$。

Siyuan（https://blog.orzsiyuan.com/author/1/） 2019 年 04 月 02 日

「算法笔记」网络流 - 上下界网络流 (https://blog.orzsiyuan.com/archives/Network-Flow-Lower-Upper-Bound/)

> √ 所谓上下界网络流，就是在网络图中给每条边指定一个流量下界和上界。这类网络流问题有很多模型，需要根据不同性质进行转化。

Siyuan（https://blog.orzsiyuan.com/author/1/） 2019 年 04 月 02 日

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