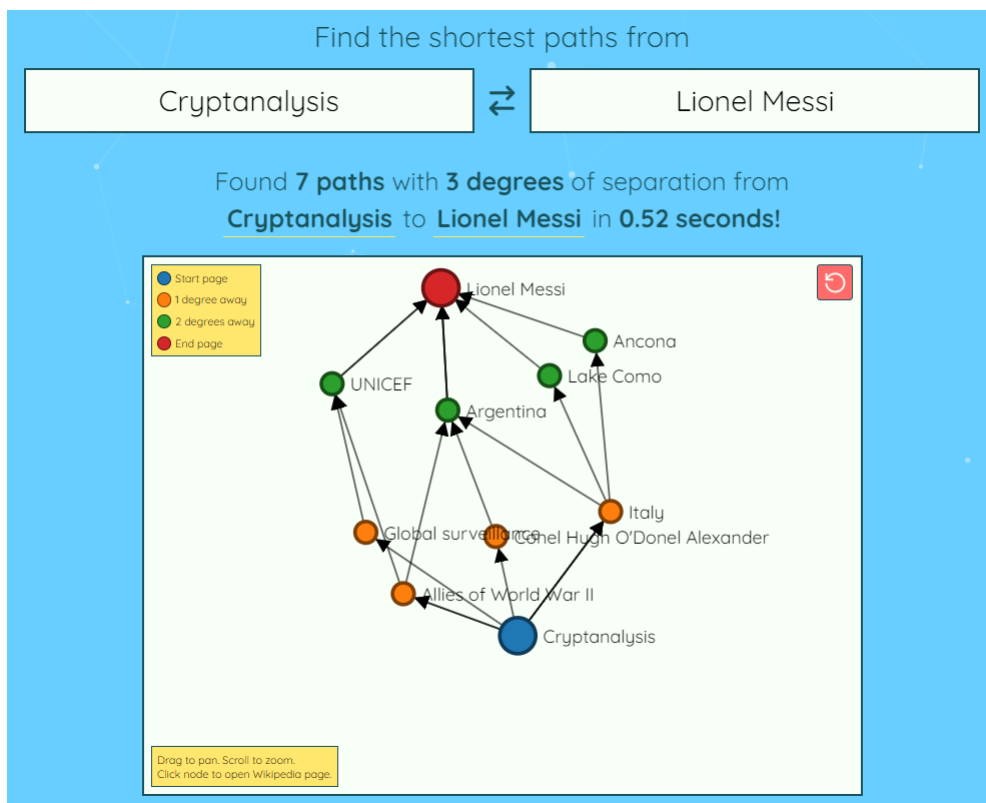


Wiki Game

sahuang

1 Problem Statement



Six Degrees of Wikipedia: Example

The **Wiki Game** is a hypertextual game designed to work specifically with Wikipedia. Player starts on some randomly selected article, and must navigate to another pre-selected target article solely by clicking links within each article. The goal is to arrive at the target article in the fewest clicks. According to [Six degrees of Wikipedia](#), you can almost always complete the game in 6 clicks.

The Wikipedia database can be modelled as an unweighted, directed graph where each article corresponds to a vertex. It is important to note that the graph can contain cycles. Your goal is to efficiently determine whether it is possible to navigate from the source article to the target article within a maximum path length of 6.

2 Input

The first line of input contains an integer T ($1 \leq T \leq 20$), the number of test cases.

In each test case, the first line contains two space-separated integers n ($2 \leq n \leq 1,000$) and m ($1 \leq m \leq 4,000$), the number of vertices and edges respectively. The next m lines describe the graph. The i^{th} line contains two space-separated integers u_i, v_i ($0 \leq u_i \neq v_i < n$), meaning there exists a path from u_i to v_i . The last line contains two space-separated integers src, dst ($0 \leq src \neq dst < n$), the source and target vertices.

3 Output

Output should have T lines. Each line prints **YES** if there exists a path from src to dst within a path length of 6, or **NO** otherwise. Remember to print them in upper-case.

4 Sample

Sample Input	Sample Output
2 7 6 0 1 1 2 2 3 3 4 4 5 5 6 0 6 10 7 0 1 1 0 0 2 0 4 1 8 8 1 9 8 0 9	YES NO

5 Explanation

In the first test case, there exists a path $0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6$ of length 6, so the answer is **YES**.

In the second test case, there is no path from 0 to 9 so the answer is **NO**. There is a path of length 3 from 9 to 0, but the graph is directed so it does not count.