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Course: CSI 3344
Due date: 7/12/2021

Outing result (Using Example)

Sample Input

6

Fran French Italian ①

Enid English German ②

George German Italian ③

Ian Italian French Spanish ④

Spencer Spanish Portuguese ⑤

Polly Portuguese Spanish ⑥

Sample output

4

Therefore, I use adjacence list to creat graph.

1 → 4

2 → NULL

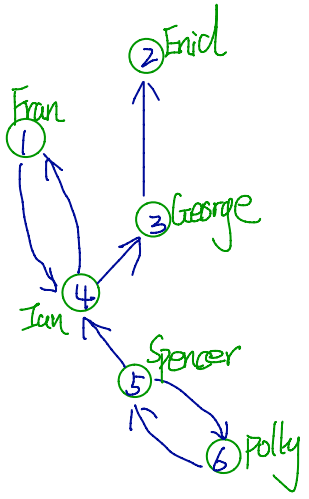
3 → 2

4 → 1 3

5 → 4 6

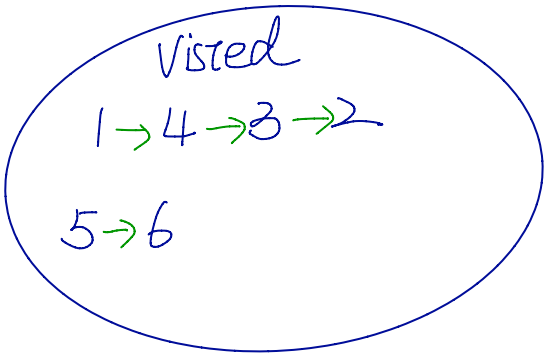
6 → 5

Therefore, Graph look like

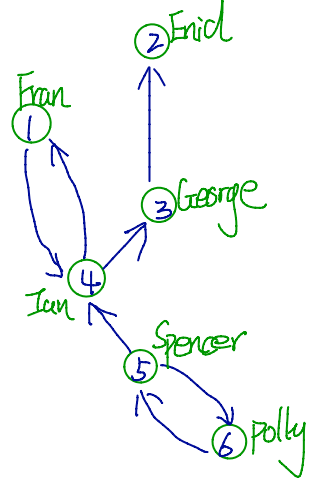


After that, Using kosaraju's Algorithm, to compute strong Components.

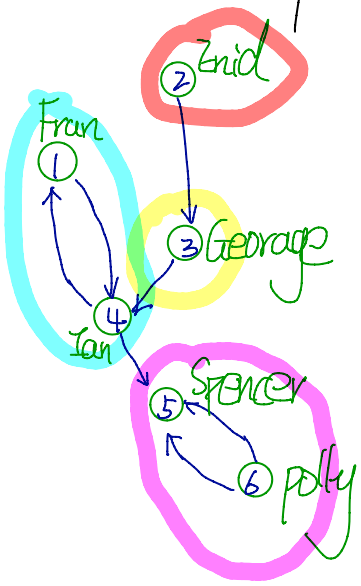
① DFS

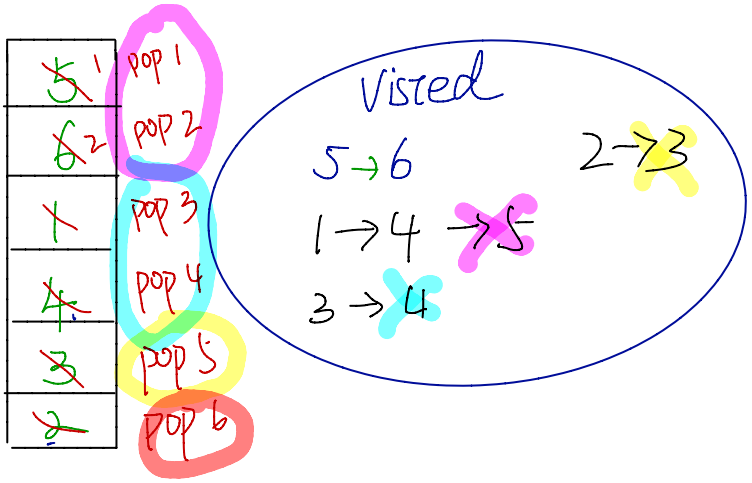


5
6
1
4
3
2



② Reverse Graph



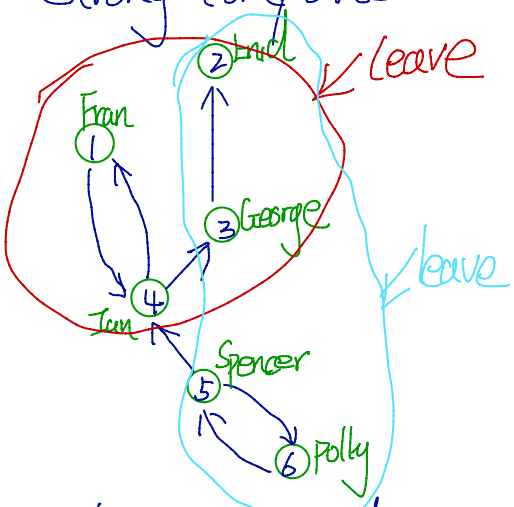


Strong components: 5, 6 (Spencer, Polly) 2

1, 4 (Fran, Ian) 2

3 (George) 1

2 (Enid) 1



Therefore, it could be 5, 6 or 1, 4 = 2 ← keep set

Therefore leave set: # vertices − keep set = 6 − 2 = 4