

# Tutor Instructions: Finite State Automata

Each group of students is given a piece of paper with a Harry Potter related sentence on it (e.g. "*I pledge my allegiance to the Dark lord to avenge Lily*"). They then follow the instructions on the chamber posters until they arrive at the final chamber which will give them an answer phrase. Each poster will have a sentence that will have a couple options. They will say something like "If your next word is [blah] cross it off and go to chamber [X]". The students are to follow these directions around until they run out of words at which point they will be told something like; "If you have no words left you are part of Dumbledore's army".

There are 3 puzzles for them to solve - Green, Red and Blue. Students will find an answer phrase, and create a node map for each labyrinth.

## Tutor assistance:

### Setup

- Some tutors will be needed to help blue-tack the chamber posters around the foyer. Make sure to mix up the Green, Red and Blue chambers to create a more challenging path

### Handout materials

- Some tutors will be needed to hand out materials to the student groups and point them to their starting chamber. Each group will need a sentence and pens
  - Green: starts at *chamber 1*
  - Red: starts at *chamber A*
  - Blue: starts at *chamber Z*

### Check answers / assist

- Roam around and see if any groups need help. Encourage students to work as a team.
- Students can come to you to verify their answer. Answer sheets can be found at the front of the room.
  - If their answer is correct, give them an extension

## How to run the extensions:

### Extension one: Medium level map creation

The students will receive a map that has a bunch of empty nodes with lines leading between them. They are to work out what number/letter each of the nodes represent. They will then also need to fill in the phrases that would connect each node to the other given the lines.

### Extension two: Hard level map creation

The students will receive a map with only the labeled nodes (for another colour), they then have to work out the connections between the nodes and the words required to go along each connection

**Extension three: Extreme map creation**

Given a blank piece of paper, they need to create the full map for the last colour. They need nodes, connections and the phrases that connect them.