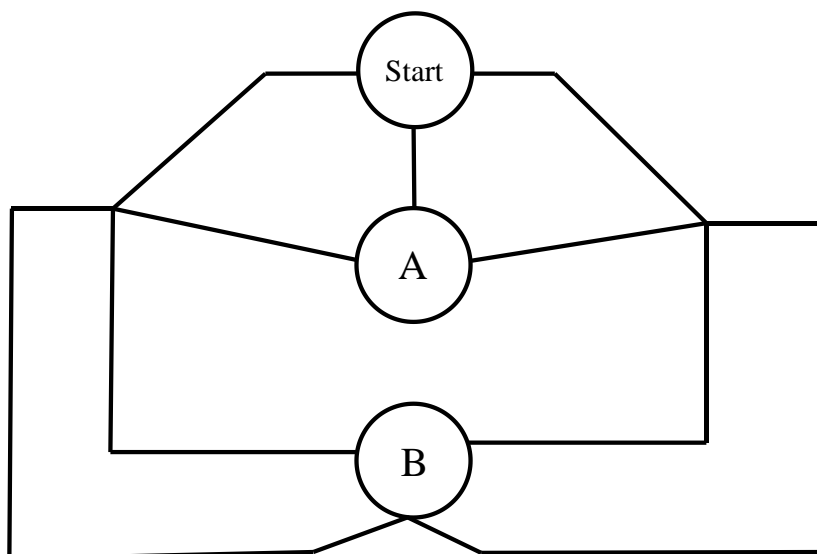The Lady or The Lions

The King of a distant kingdom arranged a marriage for his only daughter to a prince from a nearby kingdom. However, the Princess had already fallen in love with a handsome, clever but unfortunately poor peasant. The king upon learning of the Princess's relationship with the peasant, ordered the suitor to be thrown into the lions' den. His daughter pleaded with the king for mercy and the king offered a compromise. Her lover could walk through a maze, with each path leading to one of two rooms. In one room there would be the Princess, but in the other would be a pride of very hungry lions. If the peasant entered the room with the Princess, they would be allowed to marry. If the peasant entered the room with the lions, well, that would be that.

The map of the maze is reproduced below, where the heavy lines represent corridors of the maze each of which end in a door to a chamber. The peasant will not know his fate until he opens the soundproof door and steps into the chamber either to the arms of his Lady or the jaws of the Lions.

The King showed the Princess the map of the maze, and the Princess was allowed to decide which room she would wait in, either A or B. She was not allowed to send a copy to her lover, so she knew he would have to guess which path to follow. Which room should she wait in to give her lover the greatest chance of finding her? What is the probability that the story will end happily ever after?

When you have solved this problem, go to Room 2061 to present your solution to the Master Teacher.