TRAFFIC GAME AS SEARCH PROBLEM.

In the traffic game (brand name, “Rush Hour”), the task is to move the vehicles, one at a time, so make space so that the red car can exit out the opening to the right.

**Exercises.**

Play the game, answer the following questions, and discuss with your partner.

1. **Size of state space.**

   With two cars (the red exit car and one other 3-long car), how many different starting states are there?

   With three cars (red car and two 3-long cars), how many?

   Are all starting states solvable? Why or why not?
2. Actions.

Describe the set of actions available each turn.

Is the set of actions available a function of the game state? Explain why or why not.

Assuming five cars on the playing field, approximately how many actions are available? Explain. (Note: this is known as the branching factor in search.)

On average, does the number of actions available increase, decrease, or remain the same as the game progresses? Explain.


What is the goal test function for this game?