

Lab 1 - Getting Familiar with MDPs

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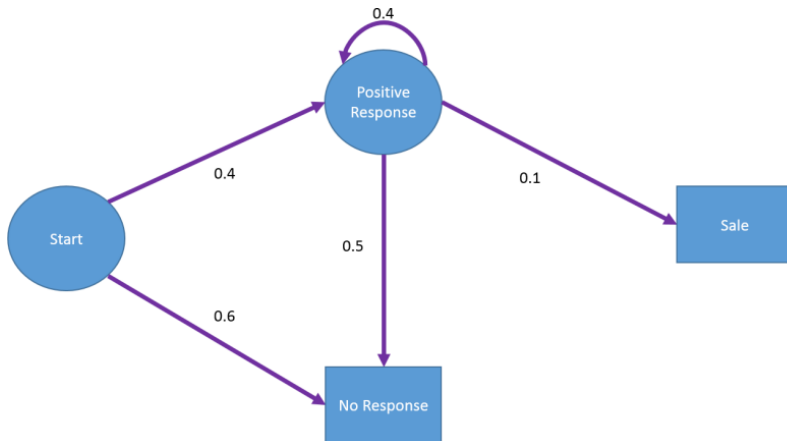
Penn State University

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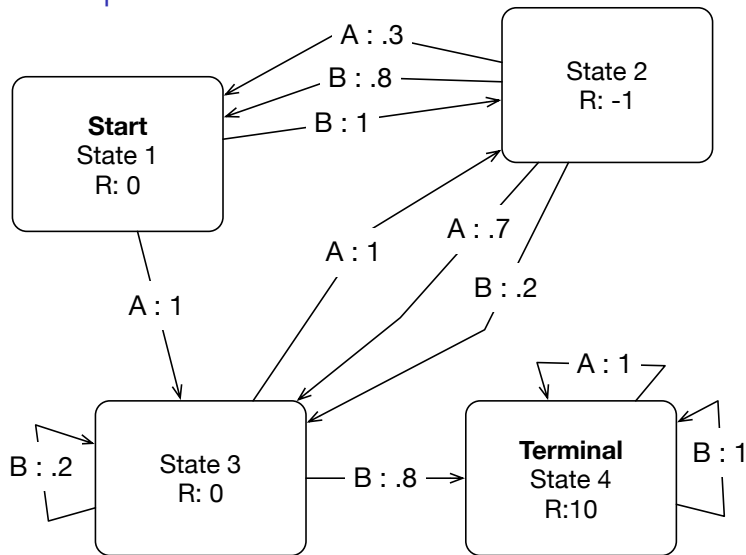


Planning, MDPs

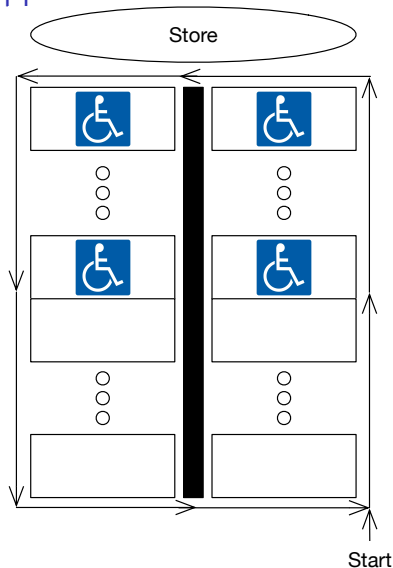
Image Credit: <https://www.datahubbs.com/reinforcement-learning-markov-decision-processes/>



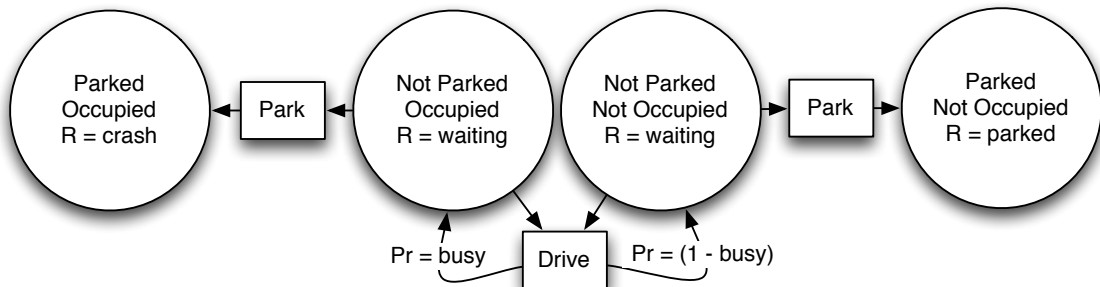
A slightly more complicated MDP: MDP1.txt from Lab 1



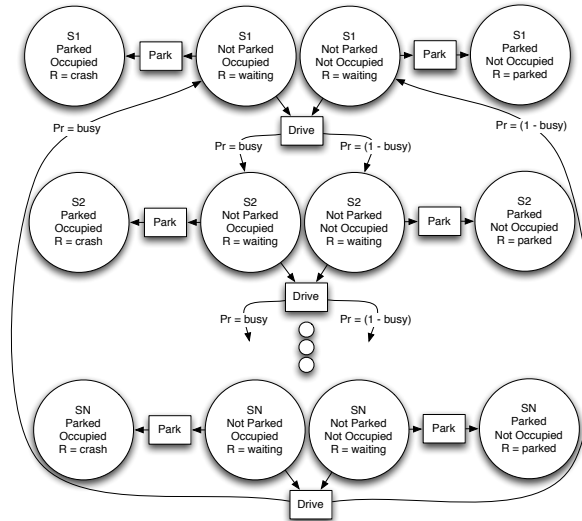
The Parking Domain: Suppose we have a lot like this one



MDP for a 1-space parking "lot"



Gadgeting the 1-space MDP to form a larger lot

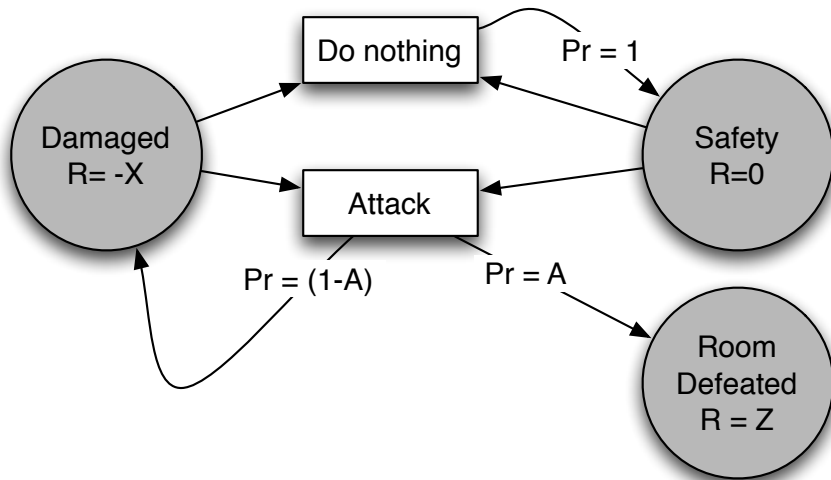


The Dungeon Domain: Suppose we have a dungeon like this one

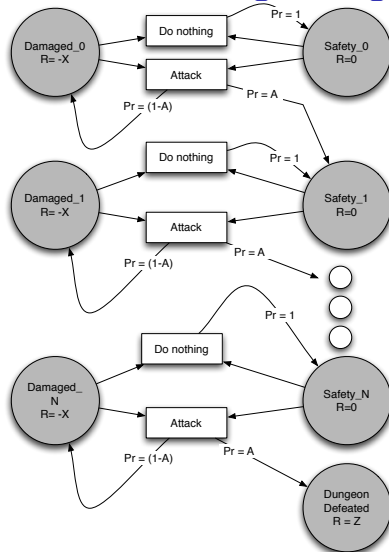
The hero starts at the beginning and has options to do nothing or attack a room. The results will either be defeating the room (positive reward) or taking damage (negative reward)



MDP for a 1-room “dungeon”



Gadgeting the 1-room MDP to form a larger dungeon



Proceed with the lab!

Raise your hand and the teaching team will assist with any questions!

Reminders:

- Please sign up for a slot to present a paper
- Please complete the short "introduce yourself" assignment