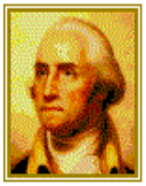
# Project 3: MDPs



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(Value Iteration + Policy Iteration)

**Due Date: April 3rd**

## General Instructions

- Use Blackboard to submit your assignment. If there are any technical issues, you can e-mail your assignment to the grader.
- No homework is accepted after the deadline. If you have an urgent reason, you can explain that to the instructor
- You can use either Java or Python in your implementations.
- Please ALWAYS submit a document that shows your algorithm choice with a brief description of how it applies to the problem (1 to 4 sentences) and how to run your script.
- You must submit your implementation along with the document.
- Graphical User Interface is NOT required.

**Note: Individual Project**

## Description

You are given a Grid World with details of the grid world. You have to solve it using value iteration, and using policy iteration. Compare the running times of both.

## Input Format

### Example, with Notes

```
7                   # Signifies it is a 7 by 7 grid
0.9                 # Gamma, Discount Factor
0.8, 0.1, 0.1       # Noise – can have 3, or 4 parameters
                    # Empty Line before grid
X,X,X,1,X,X,X       # X denotes: Not a terminal state.
X,X,X,-1,X,1,X      # Anything other than X is a terminal state
-1,X,X,-1,X,4,X     # Terminal values can be +ve, -ve or 0
X,1,X,-1,X,1,X
X,100,X,-100,X,3,X
X,2,X,-1,X,3,X
0,X,X,-1,X,1,X
```

### Example

```
6
0.8
```

```
0.5, 0.2, 0.2, 0.1

X,X,X,1,X,X
X,X,X,-1,X,1
-1,X,X,-1,X,4
X,1,X,-1,X,1
X,2,X,-1,X,3
0,X,X,-1,X,1
```