The WindyGridworldEnv Environment

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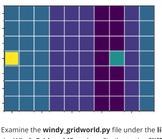
The WindyGridworldEnv Environment

In this exercise, you will examine another implementation of a grid world type environment, with a different reward structure.

Make sure that you have completed the setup requirements as described in the Set Up Lab Environments section.

Credit to Denny Britz for the implementation of the WindyGridworldEnv Environment

The WindyGridworld environment is a simple environment of a 7x10 tiles, which has "winds" that forced state transitions in certain state, irregardless to which action was taken.



Examine the **windy_gridworld.py** file under the **lib\envs** folder. Specifically, take a look at the **WindyGridworldEnv** class. Similar to the **CliffWalkingEnv** class, the **WindyGridworldEnv** class implements the **DiscreteEnv** class from open AI's gym.envs.toy_text.discrete.

Take some time to study the implementation of this environment. Start by examining how the states are represented in this environment. Unlike the CliffWalkingEnv class, the WindyGridworldEnv class does not override the reset() and step() function from the DiscreteEnv class.

Once you are familiar with the code, answer the following questions.

Lab Question

1/1 point (graded)

How many unique states does the WindyGridworldEnv environment has?

- 16
- 48
- 70 ✔
- 256

Submit You have used 1 of 2 attempts Save Show Answer

✔ Correct (1/1 point)

Lab Question

1/1 point (graded)

How many unique actions can an agent perform in the WindyGridworldEnv environment?

- 0
- 1
- 2
- 4 ✔

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✔ Correct (1/1 point)

Lab Question

1/1 point (graded)

How are the states represented in the WindyGridworldEnv environment?

- Using an integer between zero and the number of unique states
- Using an integer between zero and the number of unique states minus 1 ✔
- Using a sets of X, Y coordinates
- Using arrays of one-hot encoding

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✔ Correct (1/1 point)

Lab Question

1/1 point (graded)

In the WindyGridworldEnv environment, what is the reward given to the agent for each step taken, when the goal is not yet reached?

- -100
- -50
- -1 ✔
- 0
- 1
- 50
- 100

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✔ Correct (1/1 point)

Lab Question

1/1 point (graded)

In the WindyGridworldEnv environment, what is the reward given to the agent, when the goal is reached?

- -100
- -50
- -1 ✔
- 0
- 1
- 50
- 100

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✔ Correct (1/1 point)

Lab Question

1/1 point (graded)

When will an episode ends in the WindyGridworldEnv environment (when will the environment reset)?

- When the agent has taken 5 steps
- When the agent has taken 50 steps
- When the agent hits a wall
- When the agent moves to one of the cliffs
- When the agent has reached the goal ✔
- When the agent has reached the goal 5 times
- When the agent has reached the goal 50 times

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✔ Correct (1/1 point)

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