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## README: Homework 4-Qlearning

To run:

```
$ python3 qlearning.py
```

### Entering Input:

You will be prompted to enter a sequence of numbers,char: You can either:

1) Enter **4 numbers in sequence** followed by the char '**p**' to print the optimal policy( $\Pi^*$ ) EX: '15 12 8 6 p '

### OR

2) Enter **4 numbers in sequence** followed by the char '**q**' followed by **1 number** (unique index tile/state you would to know the optimal Q-values of) EX: '15 12 8 6 q 11'

### Notes:

- The start state of the agent is hardcoded to the tile:unique index=2 or Board[3][1] (as wanted by the homework assignment)
- As shown in the homework assignment description, each tile has a 'unique index' that corresponds to it. When entering input to get the optimal Q-values of a tile, enter its unique index.
- EX1: Tile at row:0, column:0 corresponds to unique index = 13 (for a 4x4 board)\*
- EX2: Tile at the bottom left of a 4x4 board is at row:3,column:0 and corresponds to unique index = 1\*
- The initial properties of the board are also printed in the output such as the rewards of each state, the types/states of each tile, and the initial q-values of each tile
- The end output also prints the end Q-Values of every tile in the board represented by: EX: '13:{'north': 0, 'south': 0.36278737229360614, 'west': 0, 'east': 24.09999999997674}' for the 13th unique\_index tile