

# CS 334 Artificial Intelligence

## Assignment 0

Professor Heather Pon-Barry

Due Wednesday September 17 11:59 PM

General Instructions:

- You may talk with others, however your code and your write-up must be your own work.

### Part 1

Go to the MHC library and find a recent (2012 or later) issue of *AI Magazine*<sup>1</sup>. The library has hard copies and you can also access online copies. Choose an article that interests you (check that it's an article, not an editorial or a column). Read the article for about an hour. Try to get a sense of all the sections at a high level. You don't need to understand every detail. Write up a concise paragraph on the article that touches on the following questions.

- What is the problem that is addressed?
- What is challenging about this problem?
- What are the findings?
- What are the implications of the findings?
- (Optional) Do you see any interesting extensions to this work?

Be sure to include the complete bibliographic reference for the article. For example,

- Vasile Rus, Sidney D'Mello, Xiangen Hu, and Arthur Graesser. 2013. Recent Advances in Conversational Intelligent Tutoring Systems. *AI Magazine* 34(3): 42–54.

### Part 2

- (a) Work through the python tutorial on: <http://inst.eecs.berkeley.edu/~cs188/pacman/tutorial.html#PythonBasics>. If you do not have python on your computer, you can download it at: <https://www.python.org/>. As you go through the tutorial,

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<sup>1</sup>[http://fcaw.library.umass.edu/F/?func=direct&doc\\_number=001220664&doc\\_library=FCL01](http://fcaw.library.umass.edu/F/?func=direct&doc_number=001220664&doc_library=FCL01)

you should invoke the interactive interpreter and run the examples on your own computer. To start python, type `python` from the command line. To exit the interpreter, type `quit()`.

```
PONBARRY:~ ponbarry$ python
Python 2.7.5 (default, Mar  9 2014, 22:15:05)
[GCC 4.2.1 Compatible Apple LLVM 5.0 (clang-500.0.68)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

You can ignore the comments about autograding. For part (a), there are no deliverables. Of course, it is in your own interest to do the tutorial thoroughly!

(b) Now open up `shop.py` and `shopTest.py`, two of the python files distributed in the tutorial from part (a). Read the files carefully. You should understand all the functionality.

- In `shopTest.py`, add code to create a new shop called `tailgate` that sells the following fruit:
  - apples at \$3 per pound
  - bananas at \$1 per pound
  - fruitsalad at \$5 per pound
- In `shopTest.py`, create an order for 10 apples. Call the `getPriceOfOrder` function to print out the price of this order at `tailgate` and at the Berkeley Bowl.
- In `shop.py`, write a new function `discountItemPrice` that takes the name of a fruit and updates the price per pound to be 50% of the current price. Add code to `shopTest.py` to discount the bananas at `tailgate` and print out an informative message with the old price and the new price.
- In `shop.py`, write a new function `addItem` that takes a Dictionary of new `fruitPrices` and adds these items to the shop. Add code to `shopTest.py` to add two new items to `tailgate` and print out an informative message with the new `fruitPrices`.
- BONUS: Does your `addItem` function check to see if the items to be added already exist in the shop? Add a check for this case. If the item already exists, merge them. Since there's a surplus, the item can go on sale! Set the new price to be a 50% discount from the lower of the two original item prices.

## Deliverables

- Submit a PDF for Part 1 called `lastname_hw0.pdf`. Submit your modified `shop.py` and `shopTest.py` for Part 2. Moodle submission instructions TBA.