Project 0: Python Tutorial

CS 4300: Artificial Intelligence
University of Utah

This project serves as an introductory material to the primitives in Python programming. The objective of this project is to get your hands wet in Python which would be the programming language that would be used throughout all the projects in this course. You should follow along with this tutorial.

You will use **Python 3** for the projects in this class.

1 Python Installation

The best way to install Python 3 is through a version manager like **Anaconda** or **pyenv**. The tutorial has instructions for **Anaconda**.

If you have any issues with installing Python on your local machines or have other constraints, you can make use of the CADE lab machines which have Python installed in them.

2 Creation of Virtual Environment

Virtual Environment comes pre-installed in python3. Please follow the instructions below to set up the virtual environment. However, if you still want to install virtual environment using pip, the following link has more information.

- Navigate to desired virtual environment installation path (where you want to install it)
  cd <Folder name> or <path>
- **Creating virtual environment:**
  python3 -m venv venv_test
  Here venv_test is the name of the environment that you are creating.
- **Activate virtual environment:**
  source venv_test/bin/activate
- **Deactivate virtual environment:**
  deactivate

3 Introductory Python tutorial

For those who are new to Python, please go through all the examples and code snippets under the section titled Python Basics from the tutorial. It also includes some UNIX com-

mands. For those who have already been programming in Python, this could be a good time to refresh yourself on some of the topics.

4 Project 0 Source files

Download p00.zip and unzip it. The project directory has many files including an **autograder.py** file which will be used to check the correctness of your code.

5 Python programs (4 pts)

As part of Project 0 you would have to complete three questions.

1. Question 1
2. Question 2
3. Question 3

described in the tutorial. The instructions in each question clearly tells you which file(s) would you need to modify for the corresponding question. Complete the code for all the three questions and include comments in your code wherever necessary. All questions are equally weighted.

6 Self Analysis (1 pt)

5.1 (1 pt) What was the hardest part of the assignment for you?

5.2 (1 pt) What was the easiest part of the assignment for you?

5.3 (1 pt) What problem(s) helped further your understanding of the course material?

5.4 (1 pt) Did you feel any problems were tedious and not helpful to your understanding of the material?

5.5 (1 pt) What other feedback do you have about this homework?

7 Evaluation

Your code will be auto-graded for technical correctness. Please do not change the names of any provided functions or classes within the code, or you will wreak havoc on the autograder. However, the correctness of your implementation – not the autograder's judgements – will be the final judge of your score. If necessary, we will review and grade assignments individually to ensure that you receive due credit for your work.

8 Submission Instructions

- For the final submission you will be turning in a zipped folder of the python files and a PDF document containing your responses to questions from previous sections.
- Please ensure all the submissions are done through canvas. Please do not email the instructor or the TA's with your submission. Submissions made via email will not be considered for grading.
- **Naming:** Your upload should be named in the format ⟨uid⟩-Proj⟨number⟩.zip where ⟨uid⟩ is your Utah uid and ⟨number⟩ is the Project number. **Ex:** u0004300-Proj0.pdf
- For this project fill in portions of the files to edit. Once you have completed the code, zip your entire project folder, rename it as per the conventions stated above and submit it via canvas. Do not delete the other files present in the .zip file or change the names of any of those files in the project directory.
- **Written Answers:** Place all your written answers and responses to questions in "Self Analysis" in a single PDF document. This should be clearly named in the format ⟨uid⟩-Proj⟨number⟩-answers.pdf, where ⟨uid⟩ is your Utah uid, ⟨number⟩ is the Project number. Ex: u0004300-Proj0-answers.pdf. Please make sure to write your name at the top of the document!