BT 3051 — Data Structures and Algorithms for Biology

July-Nov 2019

Assignment 0

10th August 2019

Due date: 17th August, 2019 @ 17:00 **Maximum marks: 30**

Instructions: Write Python codes to solve the problems mentioned below. If you need any assistance, feel free to write to me or the TAs via Piazza (private note). Evaluation will be based on the codes and the logic.

Academic Integrity: You are allowed to discuss the problems verbally with your friends, but copying or looking at codes (either from your friend or the Web) is not permitted. Transgressions are easy to find, and will be reported to the "Sub-committee for the Discipline and Welfare of Students" and will be dealt with very strictly. Mention any collaboration (discussions only!) in your solutions.

Late submission penalties: 1 second – 24 h: 20%; 24–48 h: 40%; > 48h: 60%

Early submission bonuses: > 24h: 5%, > 48h: 10%, > 72h: 20%

Evaluation: Assignments will be <u>evaluated by the TAs within one week</u> of the due date. You can check out your marks and <u>contest them, if needed, for at most one more week post-evaluation</u>, i.e. two weeks from the due date of the assignment.

Hints:

1. Installing Python: see https://gist.github.com/karthikraman/d561801f8bd7b783b6f4
2. Please have a look at the following page (from Cosma Shalizi's blog), on minimal advice to under-graduates on programming: http://cscs.umich.edu/~crshalizi/weblog/593.html

Problem Statement

0a. (10 marks) Write a program that does the following:

    a. Asks the user to enter their name

    b. Asks the user to enter their age as a float

    c. Tells them whether or not they are eligible to apply for a driver's license (the minimum age in Tamil Nadu is 18).

A sample interaction with a correct program should look like this:

```
Enter your name:
> Ada
Enter your age:
> 17.00
Ada, you are not eligible to apply for a driver's license.
```

Hint: Check out the Python commands `input` and `print`

0b. (20 marks) Write a program that takes in a number n from the user and prints the pyramid pattern given below

A sample interaction with a correct program should look like this:

```
Enter a number:
> 4
1
1 4
1 8 27
1 16 81 256
```

Hint: Check out the Python command `for` and the operator `**`

How to Submit your Homework

- Submit your assignment ONLY via the submission link: http://tinyurl.com/bt3051-submit.

- You should not be signed into Dropbox while uploading this file (or use an incognito window to open the link), so that you can enter the following details during submission, instead of Dropbox auto-filling it:

  - First Name: Roll Number
  - Last Name: Your Full Name
  - E-mail: Your `smail` id

- Save your solution files as `hw0a.py` and `hw0b.py`. Do not use different filenames!

- Each of your submission files, `hw0a.py` and `hw0b.py` should begin with the **header informa-tion** shown below — the number of the assignment, your roll number, your collaborators' roll number(s), and approximately how much time you took to solve the problems in that part of the assignment.

- **Submissions not adhering to any of the above instructions will not be evaluated**.

- Also do not send the files by e-mail — obviously, they will not be evaluated.

```
#BT3051 Assignment 0a
#Roll number: BE13B001
#Collaborators: CH12B001, EE13B001
#Time: 1:15
```

Attention: This assignment is (borderline) trivial; the main purpose of this assignment is to ensure that you have installed Python on your system and can write the simplest of programs. An important aspect of any program is the ability to take in input and give out an output — which you will have learnt here. Most importantly, you should learn to adhere to the submission procedures, since we have a large class.