

EECS 1015: LAB #3 – If-statements and loops

Assigned: September 28, 2020

Due date: Oct 17, 2020 (extra time is given because Oct 10-16 is reading week)

#Important reminder for your third lab

- 1) You must submit your lab via web-submit.
- 2) Please make sure you correctly submit your file(s).
- 3) Please follow the instructions carefully – read the lab carefully to understand everything you need to do; this lab has multiple parts.

1. GOALS/OUTCOMES FOR LAB

- To practice if-statements and while/for loops
- To continue practicing with string input and string processing
- To write your own Python code

2. LAB 3 – TASK/INSTRUCTIONS

Task 0: [This will be the same for all labs]: Start your code with comments that include this lab ID, your full name, email address, and student id as follows:

```
# Lab 3
# Author: Michael S. Brown
# Email: msb99898@aol.com
# Student ID: 10233030
```

This lab has four tasks. Please read each carefully. You can also watch the accompanying video linked here:

https://www.eecs.yorku.ca/~mbrown/EECS1015_Lab3.mp4

See the four tasks on the next pages.

Task 1 [Ticket Price]

Goal: This task is to compute the ticket price for a person based on their age and their status as a student.

The user should input two piece of information:

- (1) Their age as an integer
- (2) If they are a student or not, either "Y" or "N"

You need to compute the type of ticket and amount they need to pay. The possible outcomes are:

Type 'CHILD', Price 0.50 - if their age is less than or equal to 12.

Type 'STUDENT', Price 1.00 - if they answer "Y" to the student question

Type 'SENIOR', Price 0.50 - if their age is greater than or equal to 65.

Type 'ADULT', Price 1.50 - if none of the thing above are true.

Note, you should compute the lowest fare based on the input. For example, a person who is a 'CHILD' or 'SENIOR' but is also a 'STUDENT' should only pay 0.50 and not the students rate of 1.00.

See output for several examples (user input is in red)

---TASK 1: Determine Fare---

What is your age?: 5

Are you a student (Y/N)? Y

Fare Type 'CHILD' - Price: \$0.50

---TASK 1: Determine Fare---

What is your age?: 30

Are you a student (Y/N)? Y

Fare Type 'STUDENT' - Price: \$1.00

---TASK 1: Determine Fare---

What is your age?: 66

Are you a student (Y/N)? N

Fare Type 'SENIOR' - Price: \$0.50

---TASK 1: Determine Fare---

What is your age?: 21

Are you a student (Y/N)? N

Fare Type 'ADULT' - Price: \$1.50

Your output should look like that shown here. Also see accompanying video.

Example video for the lab: https://www.eecs.yorku.ca/~mbrown/EECS1015_Lab3.mp4

Task 2 [Print each item in string and reverse the string.]

Goal: The user should input string. You will print out each character one by one. You will also print out the string in reverse order.

See output for several examples (user input is in red)

--- Task 2: Print String Characters and Reverse --

Input a string: **This is a test.**

```
str[0] = 'T'
str[1] = 'h'
str[2] = 'i'
str[3] = 's'
str[4] = ' '
str[5] = 'i'
str[6] = 's'
str[7] = ' '
str[8] = 'a'
str[9] = ' '
str[10] = 't'
str[11] = 'e'
str[12] = 's'
str[13] = 't'
str[14] = '.'
```

Reversed: '.tset a si sihT'

--- Task 2: Print String Characters and Reverse --

Input a string: **EECS1015 Lab3**

```
str[0] = 'E'
str[1] = 'E'
str[2] = 'C'
str[3] = 'S'
str[4] = '1'
str[5] = '0'
str[6] = '1'
str[7] = '5'
str[8] = ' '
str[9] = 'L'
str[10] = 'a'
str[11] = 'b'
str[12] = '3'
```

Reversed: '3baL 5101SCEE'

Your output should look like that shown here. Also see accompanying video.

Example video for the lab: https://www.eecs.yorku.ca/~mbrown/EECS1015_Lab3.mp4

Task 3 [Finding the maximum value in a list of inputs]

Goal: The goal is to find the maximum value from a sequence of positive numbers. You should ask the user to input a sequence of positive numbers (it is OK if they repeat numbers). The end of the sequence is determined when the user enters a negative number. You should print out the maximum number from the sequence.

See output for several examples (user input is in red)

--- Task 3: The Maximum ----

Keep entering positive numbers.

To quit, input enter a negative number.

Enter a number: 10

Enter a number: 15

Enter a number: 11

Enter a number: 0

Enter a number: 88

Enter a number: 15

Enter a number: 33

Enter a number: 8

Enter a number: -1

Largest number entered 88

--- Task 3: The Maximum ----

Keep entering positive numbers.

To quit, input enter a negative number.

Enter a number: 1039

Enter a number: 2029

Enter a number: 3333

Enter a number: 40

Enter a number: 109

Enter a number: 5555

Enter a number: -1

Largest number entered 5555

Your output should look like that shown here. Also see accompanying video.

Example video for the lab: https://www.eecs.yorku.ca/~mbrown/EECS1015_Lab3.mp4

Task 4: String triangle

Goal: Input a string. Based on the inputted string, print out a triangle as shown below. Note that case where string only is a single character (last example).

See output for several examples (user input is in red)

--- Task 4: String triangle ---

Type in a string: **EECS1015**

```
E
EE
EEC
EECS
EECS1
EECS10
EECS101
EECS1015
EECS101
EECS10
EECS1
EECS
EEC
EE
E
```

--- Task 4: String triangle ---

Type in a string: *********

```
*
**
***
****
*****
*****
*****
****
***
**
*
```

--- Task 4: String triangle ---

Type in a string: **^^**

```
^
^^
^
```

--- Task 4: String triangle ---

Type in a string: **X**

```
X
```

Example video for the lab: https://www.eecs.yorku.ca/~mbrown/EECS1015_Lab3.mp4

3. GRADING SCHEME (Maximum number of points possible 10)

This lab is more challenging than lab 2. However, the notes and trinkets examples are all sufficient to help you do this lab. To get full marks you need to make sure you follow the instructions correctly. The following will be our grading scheme for the Lab components specified in Section 2 of this document.

Task 0: (0 points, but deduction if you skip this part)

- File name **must** be "**lab3.py**" (all lowercase, no spaces)
- The Python comments at the beginning of your program **must** include your name, email, and York student id (this is important for grading)
- *If your file name is incorrect, you or do not put in the required information we will deduct -5 points (Why are we so harsh? Because if you don't put in your name and student id it can be very difficult for the TAs to determine whose submission this is.)*

Task 1-4: (2.5 points each)

- Each task should prompt the user correctly and compute the required output correctly.
- Please watch the accompanying video.

-No submission – 0 points

-Any submission 1 week after the due date 50% off the total marks

-Any submission 2 weeks after the due date will not be marked and treated as no submission.

See pages below on how to submit your lab code.

MAKE SURE TO SELECT Lab3 with websubmit

4. SUBMISSIONS (EECS web-submit)

You will submit your lab using the EECS web submit.

Click on the follow URL: <https://webapp.eecs.yorku.ca/submit>

Web Submit Login


To access Web Submit:

- Use your **Passport York** account by [clicking here](#), or,
- Use your EECS account by logging in below:

EECS Username:

EECS Password:

Login



York University
Department of Electrical Engineering and Computer Science
Lassonde School of Engineering

STEP 1 -- If you don't have an EECS account, click here to use Passport York (everyone has a passport York account).

If you do have an EECS account, enter here and go to **STEP 3**.

Passport YORK

Passport York authenticates you as a member of the York community and gives you access to a wide range of computing resources and services.

Username:

Password:

Login

☐ Click this box before logging in to change your Passport York password.

STEP 2 – Enter your passport York username/password.

Academic Year: 2020-21 ▼

Term: F ▼

Course: 1015 ▼

Assignment: Lab 3 ▼

Submit Status: Submission
Enabled

Feedback: None

Please specify files to submit:
(You can submit multiple files at once!)

Choose Files	lab3.py
Choose Files	No file chosen
Choose Files	No file chosen
Choose Files	No file chosen
Choose Files	No file chosen
Choose Files	No file chosen
Choose Files	No file chosen
Choose Files	No file chosen
Choose Files	No file chosen
Choose Files	No file chosen

Submit Files Logout

STEP 3 – Select the correct menu option as follows. Term "F", Course "1015", Assignment "Lab3".

STEP 3 cont' – Select your file. The location in PyCharm may be complicated. I recommend you save your PyCharm Python file to your desktop and select from there. Remember, name your file **lab3.py**.

STEP 3 cont' – once you have entered everything above, click "Submit Files".

webapp.eecs.yorku.ca says

***** ATTENTION *****

You are submitting files to:

Course:***1015
Assignment:***Lab1
Academic Year:***2020-21
Term:***F

Failure to submit your assignment to the proper course

OK Cancel

STEP 4 – Confirm that you have entered everything in correctly. If you make a mistake here and submit to the wrong course, or wrong lab, we won't be able to tell and will mark your lab as not submitted. Please double check before clicking OK.

Feedback: None

Please specify files to submit:
(You can submit multiple files at once!)

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Choose Files

No file chosen

Submit Files

Logout

Messages:

- lab3.py / submitted

You have submitted these files:

- [lab3.py](#) (6 B) 09/13/2020 21:58:41

Delete

STEP 5 – After you submit, your webpage will refresh and show that you have submitted the files and the time.

I recommend you logout.

You can resubmit the file if you make changes. However, if the TA has already graded your lab, they will not grade it again, so I recommend you only upload once you have it work.

For more details on websubmit, see EECS department instructions:

<https://wiki.eecs.yorku.ca/dept/tdb/services:submit:websubmit>