

## CSE 1321L: Programming and Problem Solving I Lab

- o Review of I/O (input and output)
- o Review reading input from the user and storing it into variables
- o Review doing basic calculations with variables to generate a solution.



### Content

- o Overview
- o Lab4A: What is my grade
- o Lab4B: Creating a menu
- o Lab4C: Triangle Types

### Overview

"jX 2 ùe \Ù•ôô'Ù•ô... ù+ôíX2ôíÙî -ôXô2... \Ùe:Ù1í'ôÙ:jXÙUX:  
Uíe \Ùæí\ôíÙ:2ÙôÙ2... \Ù+íæÙ...IF,ELIF,andÙ...e@1ô2e\Ù  
e:Ù1í'ôÙ...:jXÙè:íôÙ...:2\ }ôÙe":ÙÙÙ-ôíXôô2...+Ùéæ:2Ù+ : èàÙ\ :Ù..  
• ++Ù2ôôíÙe:Ùe 2' j ùe ôÙUX:æ+ô1Ù

- o Lab4A.py
- o Lab4B.py
- o Lab4C.py

is \ :•2 ùred and bold



Enter your grade: **97.2**  
Letter grade is: A+

Sample Output #3:

Enter your grade: **43.4**  
Letter grade is: F

## Lab4B: Creating a menu

>:XÙe \Ù+ÍæÙô„ôXè \ôàÙ...:jÙÍXôÙ : 2 Ùe:ÙèXôíeôÍÙæÍ\ èÙUX: XÍ  
\ô+ôíeÙ:Ue :2Ù X:1ÙÍÙ1ô2jáÙ\ô+ôèe 2 ÙÍÙî ^ôXô2eÙ:Ue :2Ù X:1Ùe  
2ÙÍÙî ^ôXô2eÙ:jeè:1ôßÙ

For this lab, the lab must exclusively use a

### For this lab:

- o Welcome the user by printing "Welcome!".
- o Prompt the user to enter a number and read it. This input value will be the number that the program will perform the calculation
  - The user output can contain decimal values
- o Next, print the menu options as shown in the sample output.
- o

- 1) Get the reciprocal of the number
- 2) Square the number
- 3) Cube the number
- 4) Exit the program

**1**

The reciprocal of 50.4 is 0.02

Sample Output #3:

Welcome!

Please input a number: **500**

What would you like to do with this number:

- 0) Get the additive inverse of the number
- 1) Get the reciprocal of the number
- 2) Square the number
- 3) Cube the number
- 4) Exit the program

**2**

The square of 500.0 is 250000.0

Sample Output #4:

Welcome!

Please input a number: **9**

What would you like to do with this number:

- 0) Get the additive inverse of the number
- 1) Get the reciprocal of the number
- 2) Square the number
- 3) Cube the number
- 4) Exit the program

**3**

The cube of 9.0 is 729.0

Sample Output #5:

Welcome!

Please input a number: **98234**

What would you like to do with this number:

- 0) Get the additive inverse of the number
- 1) Get the reciprocal of the number
- 2) Square the number
- 3) Cube the number
- 4) Exit the program

**4**

Thank you, goodbye!

Sample Output #6:

Welcome!

Please input a number: **130.4**

What would you like to do with this number:

- 0) Get the additive inverse of the number
- 1) Get the reciprocal of the number
- 2) Square the number
- 3) Cube the number
- 4) Exit the program

**5**

Invalid option!

Sample Output #7:

Welcome!

Please input a number: **0**

What would you like to do with this number:

- 0) Get the additive inverse of the number
- 1) Get the reciprocal of the number
- 2) Square the number
- 3) Cube the number
- 4) Exit the program

**1**

Cannot divide by 0!

## Lab4C:Triangle Types

12 Û e \ Û + Í æ à Û ... : j Û Í X ô Û : Nested IF, ELIF, and ELSE with 2 es

Enter the second side of the triangle: **15**  
Enter the third side of the triangle: **15**  
The triangle is an isosceles triangle.

Sample Output #3:

Enter the first side of the triangle: **10**  
Enter the second side of the triangle: **8**  
Enter the third side of the triangle: **3**  
The triangle is a scalene triangle.

Sample Output #4:

Enter the first side of the triangle: **6**  
Enter the second side of the triangle: **9**  
Enter the third side of the triangle: **15**  
The sides do not form a valid triangle.