Allen Taylor
SDEV 300 6382 LAB 2
1/22/2022

Main Menu

Test Case 1:
Input validation
Requirements:
Must contain input validation.
Input:
Error Check, -1, 100, 6
Expected Output:
*** Invalid Selection ***
Actual Output:
*** Invalid Selection ***

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| Lab 2 Main Menu |
o-----------------o
1 -- Generate Secure Password.
2 -- Calculate and Format a Percentage.
3 -- How many days from today until July 4, 2025?
4 -- Use the Law of Cosines to calculate the leg of a triangle.
5 -- Calculate the volume of a Right Circular Cylinder.
6 -- Exit
Enter a selection: Error Check
*** Invalid selection ***
Enter a selection: -1
*** Invalid selection ***
o-----------------o
| Lab 2 Main Menu |
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6 -- Exit
Enter a selection: 100
*** Invalid selection ***
o-----------------o
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6 -- Exit
Enter a selection: 6
*** Exiting Program ***
```

Generate Secure Password

Test Case 1:

Generate a Secure Password

Requirements:

Prompt the user for the length of the password to be created
Use of Upper Case
Use of Lower Case
Use of Numbers
Use of Special Characters

Input:

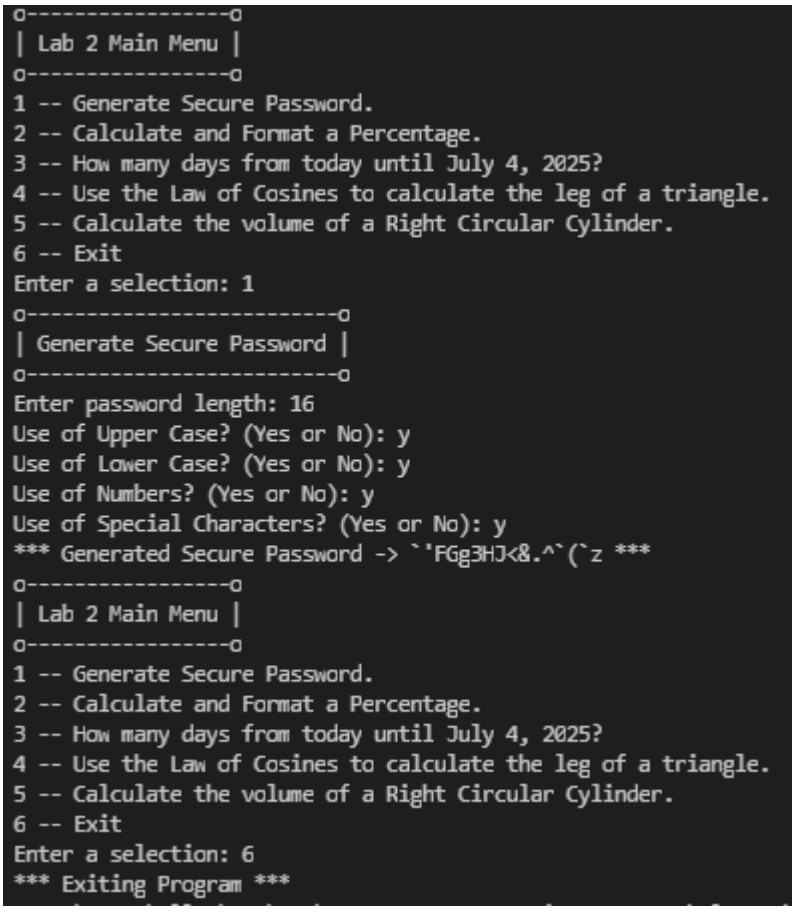
1, 16, y, y, y, y, 6

Expected Output:

*** Generated Secure Password -> <password> ***

Actual Output:

*** Generated Secure Password -> `'FGg3HJ<&.^`(`z ***



Test Case 2:
Input validation
Requirements:
Must contain input validation.
Input:
1, Error Check, -100, 100, 0, 16, Error Check, No, Error Check, No, Error Check, No, Error Check, No, 6
Expected Output:
*** Generated Secure Password -> You have selected NO to all items. Please try again. ***
Actual Output:
*** Generated Secure Password -> You have selected NO to all items. Please try again. ***

Calculate and Format a Percentage

Test Case 1:

Calculate and Format a Percentage.

Requirements:

User enters numerator

User enters denominator

User enters the number of decimal points for formatting

Example: 22, 57, 3 would yield 38.596 %

Input:

2, 22, 57, 3 would yield 38.596 %

Expected Output:

*** Percentage = 38.596 ***

Actual Output:

*** Percentage = 38.596 ***

Test Case 2:
Input validation
Requirements:
Must contain input validation.
Input:
2, Error Check, -100, 10, Error Check, -100, 88, Error Check, -100, 2, 6
Expected Output:
All invalid inputs are caught and handled.
Actual Output:
All invalid inputs are caught and handled.

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| Lab 2 Main Menu |
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5 -- Calculate the volume of a Right Circular Cylinder.
6 -- Exit
Enter a selection: 2
o-----------------------------------o
| Calculate and Format a Percentage. |
o-----------------------------------o
Enter the numerator: Error Check
Please enter a number.
Enter the numerator: -100
Please enter a positive number.
Enter the numerator: 10
Enter the denominator: Error Check
Please enter a number.
Enter the denominator: -100
Please enter a positive number.
Enter the denominator: 88
Enter the number of decimal points: Error Check
Please enter a number.
Enter the number of decimal points: -100
Please enter a positive number.
Enter the number of decimal points: 2
*** Percentage = 11.36 ***
o-----------------o
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6 -- Exit
Enter a selection: 6
*** Exiting Program ***
```

How many days from today until July 4, 2025?

Test Case 1:

Display the number of days between today (1/22/2022) and 7/4/2025.

Requirements:

Display the number of days between today and 7/4/2025.

Input:

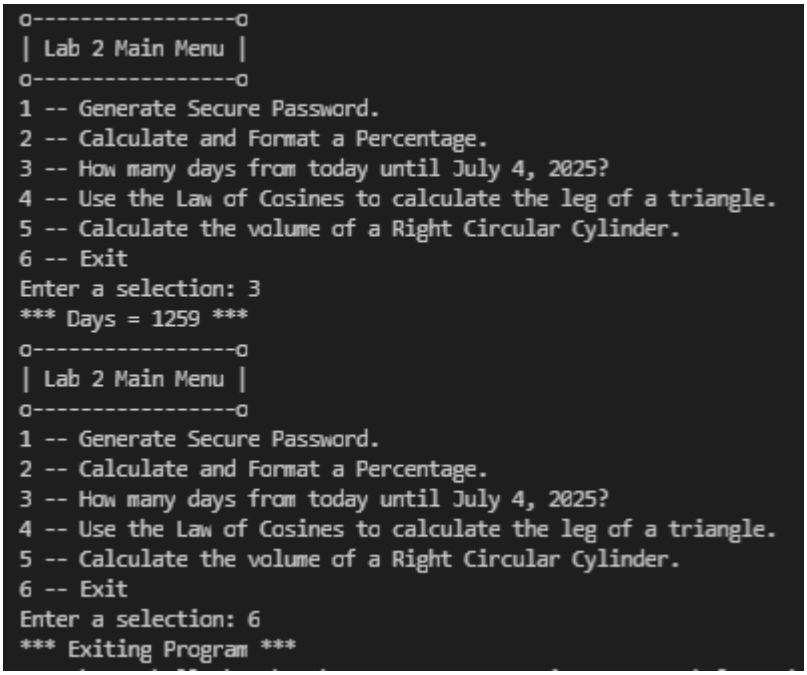
3, 6

Expected Output:

*** Days = 1259 ***

Actual Output:

*** Days = 1259 ***



Use the Law of Cosines to calculate the leg of a triangle

Test Case 1:

Find C side

Requirements:

Use formula for the law of cosines

Input Side A, Side B and Angle C

Return Side C

Input:

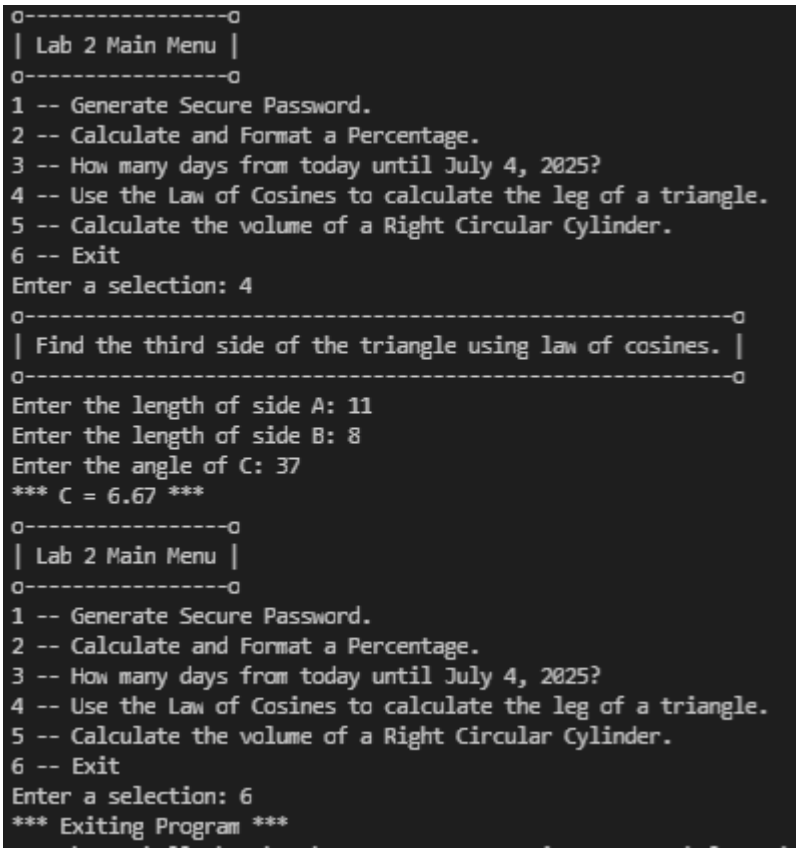
4, 11, 8, 37, 6

Expected Output:

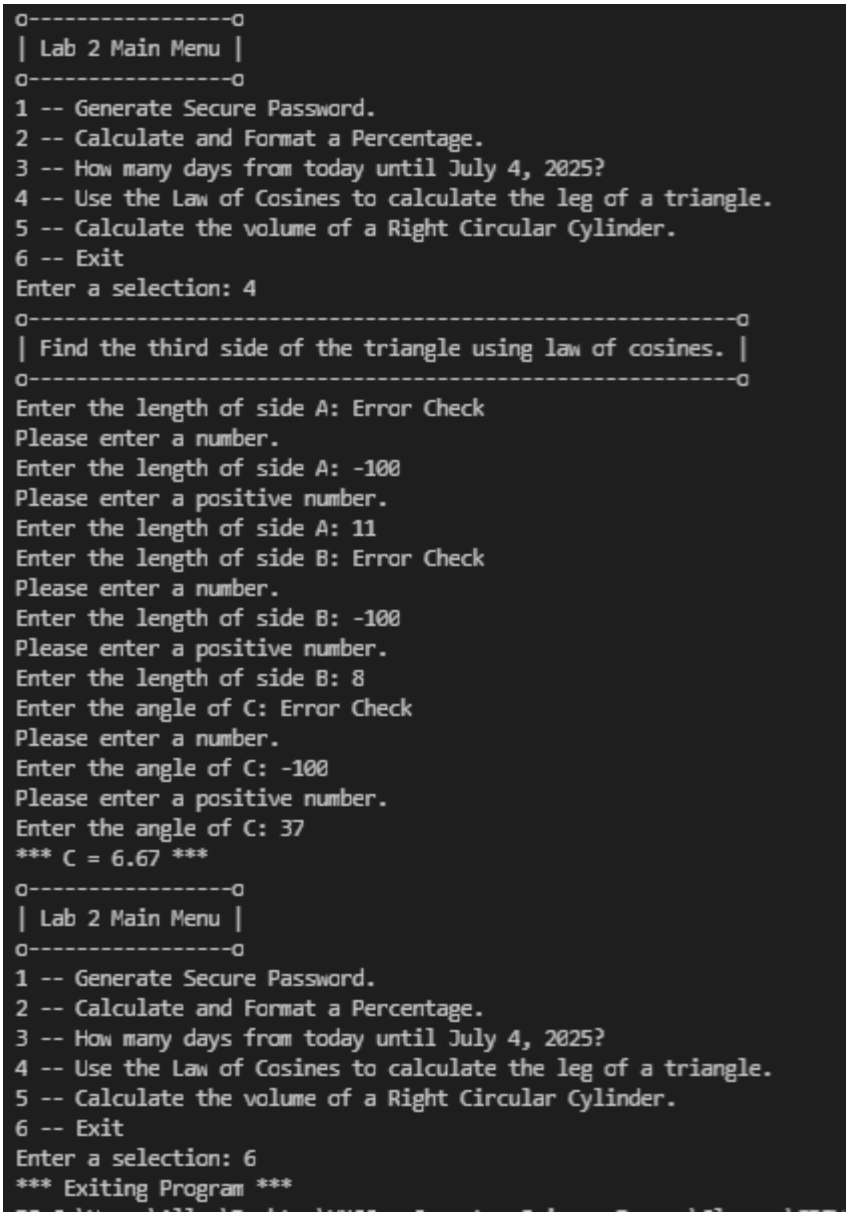
*** C = 6.67 ***

Actual Output:

*** C = 6.67 ***



Test Case 2:
Input validation
Requirements:
Must contain input validation.
Input:
4, Error Check, -100, 11, Error Check, -100, 8, Error Check, -100, 37, 6
Expected Output:
All invalid inputs are caught and handled.
Actual Output:
All invalid inputs are caught and handled.



Calculate the volume of a Right Circular Cylinder

Test Case 1:

Calculate the volume of a Right Circular Cylinder

Requirements:

Input radius and height

Return volume

Input:

5, 2, 7, 6

Expected Output:

*** Volume = 87.965 ***

Actual Output:

*** Volume = 87.965 ***

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4 -- Use the Law of Cosines to calculate the leg of a triangle.
5 -- Calculate the volume of a Right Circular Cylinder.
6 -- Exit
Enter a selection: 5
o-------------------------------------------------o
| Calculate the volume of a Right Circular Cylinder. |
o-------------------------------------------------o
Enter the radius: 2
Enter the height: 7
*** Volume = 87.965 ***
o----------------o
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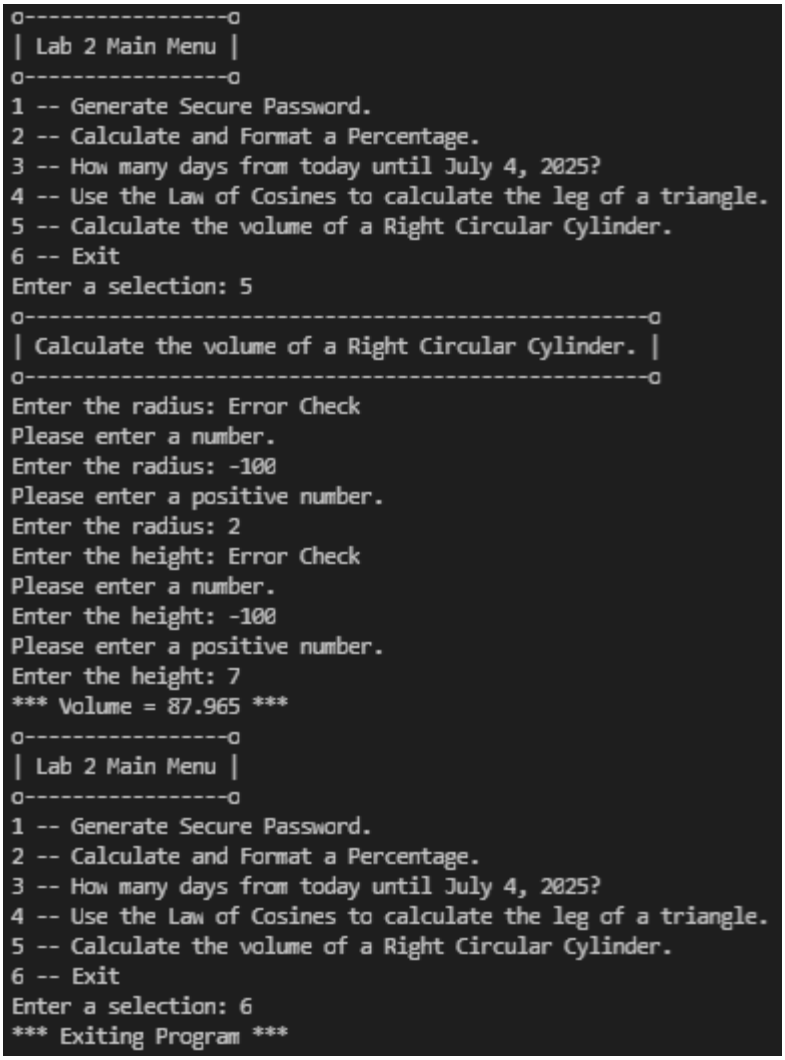
6 -- Exit
Enter a selection: 6
*** Exiting Program ***
```

Test Case 2:
Input validation
Requirements:
Must contain input validation.
Input:
5, Error Check, -100, 2, Error Check, -100, 7, 6
Expected Output:
All invalid inputs are caught and handled.
Actual Output:
All invalid inputs are caught and handled.



Pylint Results

Comments:
I have too many branches in my program, but I think this is an acceptable error due to the nature of the program. User interfaces should have many choices (branches).