"""

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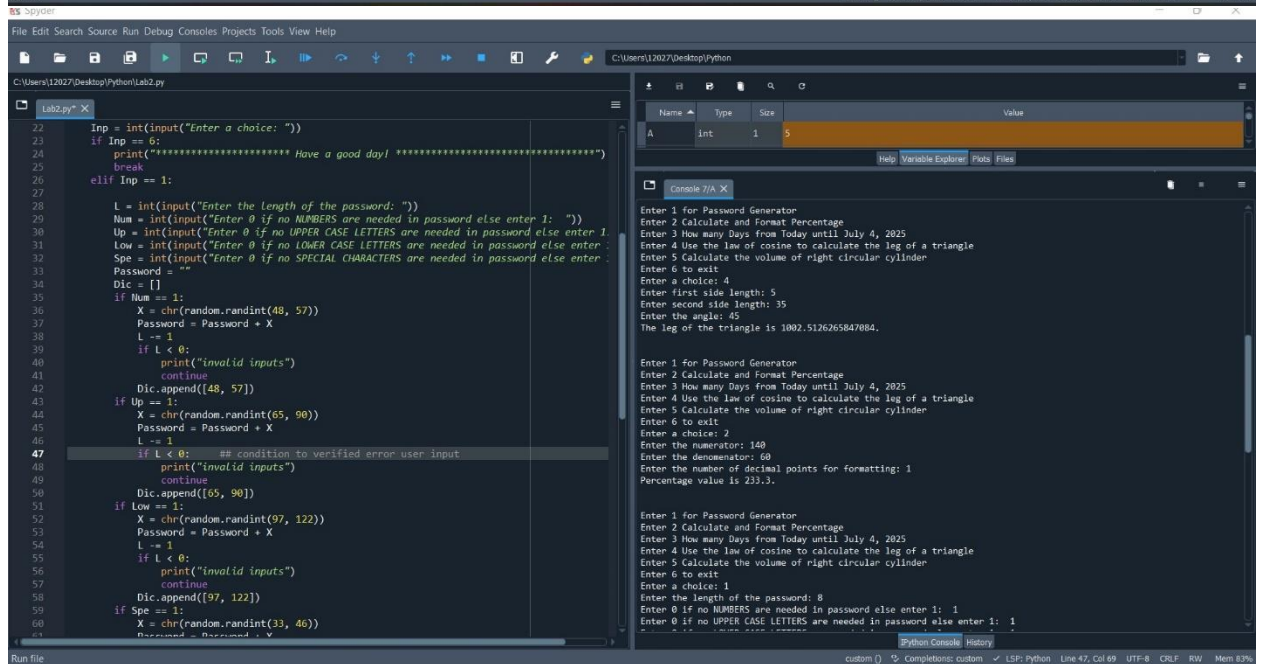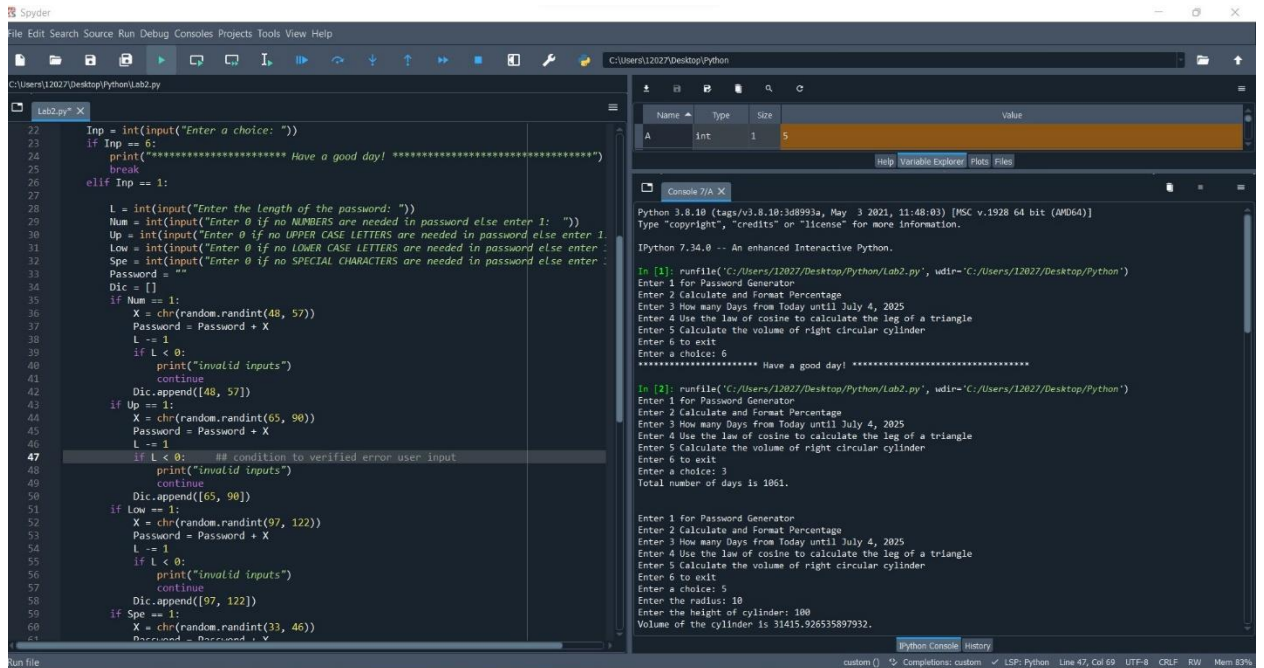
@School: UMGC

@Course: SDEV 300 Building Secure Python Applications

"""

Labs Run Tests

a. Expected Result

Lab2.py* ✕

```python
22     Inp = int(input("Enter a choice: "))
23     if Inp == 6:
24         print("*********************** Have a good day! ***********************************")
25         break
26     elif Inp == 1:
27
28         L = int(input("Enter the length of the password: "))
29         Num = int(input("Enter 0 if no NUMBERS are needed in password else enter 1:  "))
30         Up = int(input("Enter 0 if no UPPER CASE LETTERS are needed in password else enter 1.
31         Low = int(input("Enter 0 if no LOWER CASE LETTERS are needed in password else enter :
32         Spe = int(input("Enter 0 if no SPECIAL CHARACTERS are needed in password else enter :
33         Password = ""
34         Dic = []
35         if Num == 1:
36             X = chr(random.randint(48, 57))
37             Password = Password + X
38             L -= 1
39             if L < 0:
40                 print("invalid inputs")
41                 continue
42             Dic.append([48, 57])
43         if Up == 1:
44             X = chr(random.randint(65, 90))
45             Password = Password + X
46             L -= 1
47             if L < 0:      ## condition to verified error user input
48                 print("invalid inputs")
49                 continue
50             Dic.append([65, 90])
51         if Low == 1:
52             X = chr(random.randint(97, 122))
53             Password = Password + X
54             L -= 1
55             if L < 0:
56                 print("invalid inputs")
57                 continue
58             Dic.append([97, 122])
59         if Spe == 1:
60             X = chr(random.randint(33, 46))
61             Password = Password + X
```

Variable Explorer

Name ▲	Type	Size	Value
A	int	1	5

Help Variable Explorer Plots Files

Console 7/A ✕

```
Python 3.8.10 (tags/v3.8.10:3d8993a, May  3 2021, 11:48:03) [MSC v.1928 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 7.34.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/12027/Desktop/Python/Lab2.py', wdir='C:/Users/12027/Desktop/Python')
Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 6
*********************** Have a good day! ***********************************

In [2]: runfile('C:/Users/12027/Desktop/Python/Lab2.py', wdir='C:/Users/12027/Desktop/Python')
Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 3
Total number of days is 1061.


Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 5
Enter the radius: 10
Enter the height of cylinder: 100
Volume of the cylinder is 31415.926535897932.
```

IPython Console History

Run file   custom () ⟳ Completions: custom   ✓ LSP: Python Line 47, Col 69 UTF-8 CRLF RW Mem 83%

```python
22     Inp = int(input("Enter a choice: "))
23     if Inp == 6:
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25         break
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28         L = int(input("Enter the length of the password: "))
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59         if Spe == 1:
60             X = chr(random.randint(33, 46))
61             Password = Password + X
```

Variable Explorer

Name ▲	Type	Size	Value
A	int	1	5

Help Variable Explorer Plots Files

Console 7/A ✕

```
Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 4
Enter first side length: 5
Enter second side length: 35
Enter the angle: 45
The leg of the triangle is 1002.5126265847084.

Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 2
Enter the numerator: 140
Enter the denominator: 60
Enter the number of decimal points for formatting: 1
Percentage value is 233.3.


Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 1
Enter the length of the password: 8
Enter 0 if no NUMBERS are needed in password else enter 1:  1
Enter 0 if no UPPER CASE LETTERS are needed in password else enter 1:  1
```

IPython Console History

Run file   custom () ⟳ Completions: custom   ✓ LSP: Python Line 47, Col 69 UTF-8 CRLF RW Mem 83%

```
Console 7/A ✕

Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 2
Enter the numerator: 140
Enter the denomenator: 60
Enter the number of decimal points for formatting: 1
Percentage value is 233.3.


Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 1
Enter the length of the password: 8
Enter 0 if no NUMBERS are needed in password else enter 1:  1
Enter 0 if no UPPER CASE LETTERS are needed in password else enter 1:  1
Enter 0 if no LOWER CASE LETTERS are needed in password else enter 1:  1
Enter 0 if no SPECIAL CHARACTERS are needed in password else enter 1:  1
Generated password is C8&fu4D8.


Enter 1 for Password Generator
Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 6
*********************** Have a good day! *************************************
```

Error Run

As shown below the program terminates once the user input "6". That's it passed the user error inputs!

C:\Users\12027\Desktop\Python

Name ▲	Type	Size	Value
i	int	1	0

Help | Variable Explorer | Plots | Files

Console 10/A ✕

```
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Enter 2 Calculate and Format Percentage
Enter 3 How many Days from Today until July 4, 2025
Enter 4 Use the law of cosine to calculate the leg of a triangle
Enter 5 Calculate the volume of right circular cylinder
Enter 6 to exit
Enter a choice: 6
********************** Have a good day! **********************************

In [2]:
```

triangle")

user input
*********************")

d else enter 1: "))
in password else enter 1.
in password else enter :
in password else enter :