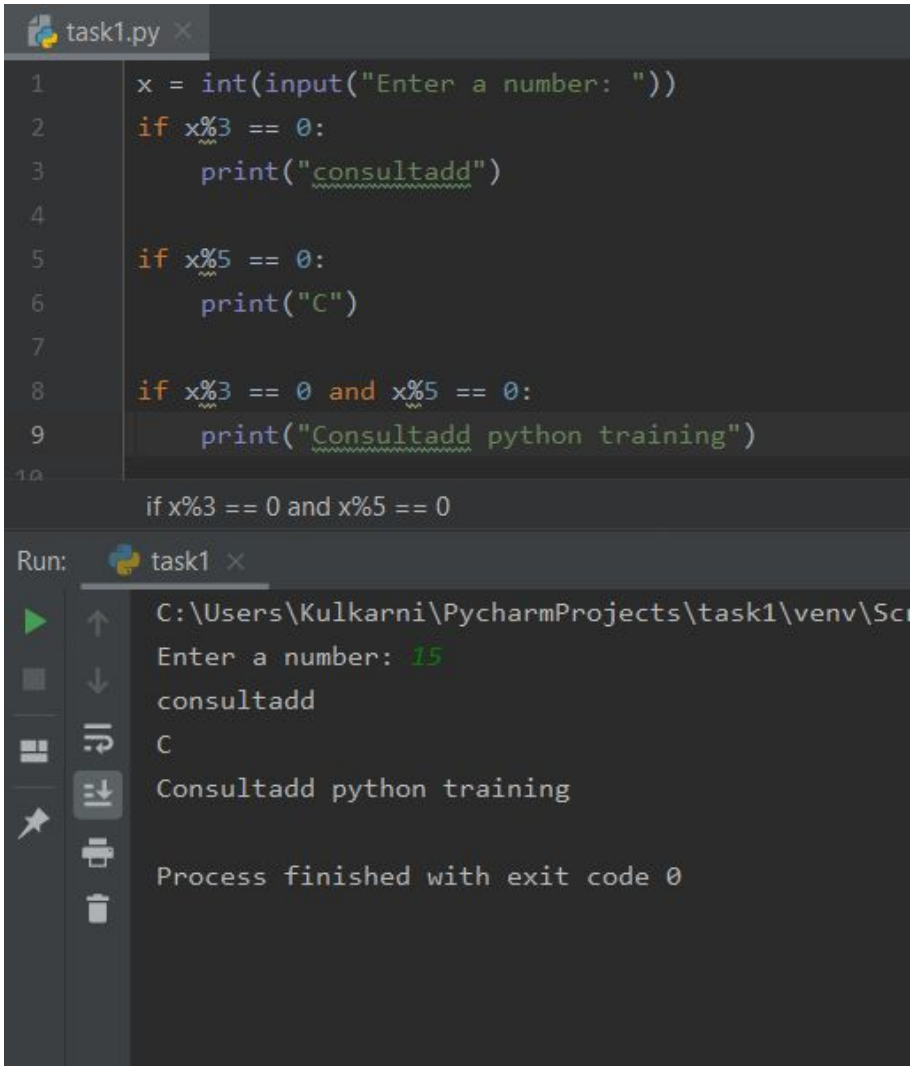
1. Write a program in Python to perform the following operation:

   - If a number is divisible by 3 it should print “Consultadd” as a string
   - If a number is divisible by 5 it should print “c” as a string
   - If a number is divisible by both 3 and 5 it should print “Consultadd Python Training” as a string.



2. Write a program in Python to perform the following operator based task:

- Ask the user to choose the following option first:
  - If User Enter 1 - Addition
  - If User Enter 2 - Subtraction
  - If User Enter 3 - Division
  - If USer Enter 4 - Multiplication
  - If User Enter 5 - Average
- Ask the user to enter the 2 numbers in a variable for first and second for the first 4 options mentioned above.
- Ask the user to enter two more numbers as first1 and second2 for calculating the average as soon as the user chooses an option 5.
- At the end of the answer of any operation is Negative print a statement saying "Zsa"
- NOTE: At a time users can perform one action at a time.

```
x = int(input("Enter a number: "))
y,z = [int(x) for x in input("Enter two numbers: ").split()]
if x == 1:
    add = y+z
    print("Addition: ", add)

elif x == 2:
    diff = y-z
    print("Subtraction: ", diff)

elif x == 3:
    div = y/z
    print("Division: ", div)

elif x == 4:
    mul = y*z
    print("Multiplication:", mul)

elif x == 5:
    a,b = [int(x) for x in input("Enter two more numbers: ").split()]
    num_list=[y,z,a,b]
    avg = sum(num_list)/len(num_list)
    print("The average is: ", round(avg,2))
```

```
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(venv) C:\Users\Kulkarni\PycharmProjects\task1>python task1.py
Enter a number: 1
Enter two numbers: 3 4
Addition:  7

(venv) C:\Users\Kulkarni\PycharmProjects\task1>python task1.py
Enter a number: 2
Enter two numbers: 6 2
Subtraction:  4

(venv) C:\Users\Kulkarni\PycharmProjects\task1>python task1.py
Enter a number: 3
Enter two numbers: 20 5
Division:  4.0

(venv) C:\Users\Kulkarni\PycharmProjects\task1>python task1.py
Enter a number: 4
Enter two numbers: 6 5
Multiplication: 30

(venv) C:\Users\Kulkarni\PycharmProjects\task1>python task1.py
Enter a number: 5
Enter two numbers: 5 6
Enter two more numbers: 9 11
The average is:  7.75

(venv) C:\Users\Kulkarni\PycharmProjects\task1>
```

3. Write a program in Python to implement the given flowchart:

```
a=10
b=20
c=30

avg = (a+b+c)/3
print("Average: ", avg)

if avg>a and avg>b and avg>c:
    print("Avg is higher than a,b,c")

elif avg>a and avg>b:
        print("Avg is higher than a,b")

elif avg>a and avg>c:
       print("Avg is higher than a,c")

elif avg>b and avg>c:
       print("Avg is higher than b,c")

elif avg>a:
    print("Avg is just higher than a")

elif avg>b:
    print("Avg is just higher than b")

elif avg>c:
    print("Avg is just higher than c")
```

elif avg>b and avg>c

task1

```
C:\Users\Kulkarni\PycharmProjects\task1\venv\Scripts\python.exe C:/Users/Kulkarni/PycharmProjects/task1/task1.py
Average:  20.0
Avg is just higher than a

Process finished with exit code 0
```

4. Write a program in Python to break and continue if the following cases occur:

- If the user enters a negative number just break the loop and print “It’s Over”
- If the user enters a positive number just continue in the loop and print “Good Going”

```
while True:
    num = int(input("Enter a number"))
    if num < 0:
        print("Its over")
        break

    if num > 0:
        print("Good going")
        continue
```

while True › if num > 0

list

```
"C:\Users\Kulkarni\PycharmProjects\Task 3\venv\Scripts\
Enter a number 10
Good going
Enter a number 14
Good going
Enter a number 2
Good going
Enter a number -2
Its over

Process finished with exit code 0
```

5. Write a program in Python which will find all such numbers which are divisible by 7 but are not a multiple of 5, between 2000 and 3200.

```
nl = []
for x in range(2000, 3200):
    if (x % 7 == 0) and (x % 5 != 0):
        nl.append(str(x))
print(','.join(nl))
```

list

```
"C:\Users\Kulkarni\PycharmProjects\Task 3\venv\Scripts\python.exe" "C:/Users/Kulkarni/PycharmProjects/Task 3/list.py"
2002,2009,2016,2023,2037,2044,2051,2058,2072,2079,2086,2093,2107,2114,2121,2128,2142,2149,2156,2163,2177,2184,2191,2198,2212,2219,2226,2233,2247,2254,2261,2268,2282,2289,2296,
2303,2317,2324,2331,2338,2352,2359,2366,2373,2387,2394,2401,2408,2422,2429,2436,2443,2457,2464,2471,2478,2492,2499,2506,2513,2527,2534,2541,2548,2562,2569,2576,2583,2597,2604,
2611,2618,2632,2639,2646,2653,2667,2674,2681,2688,2702,2709,2716,2723,2737,2744,2751,2758,2772,2779,2786,2793,2807,2814,2821,2828,2842,2849,2856,2863,2877,2884,2891,2898,2912,
2919,2926,2933,2947,2954,2961,2968,2982,2989,2996,3003,3017,3024,3031,3038,3052,3059,3066,3073,3087,3094,3101,3108,3122,3129,3136,3143,3157,3164,3171,3178,3192,3199

Process finished with exit code 0
```

6. What is the output of the following code examples?

i)

```
x = 123
for i in x:
    print(i)
```

```
task2
C:\Users\Kulkarni\PycharmProjects\task1\venv\Scripts\python.exe C:/Users/Kulkarni/PycharmProjec
Traceback (most recent call last):
  File "C:/Users/Kulkarni/PycharmProjects/task1/task2.py", line 2, in <module>
    for i in x:
TypeError: 'int' object is not iterable
```

ii)

```
i = 0
while i < 5:
    print(i)
    i += 1
    if i == 3:
        break
else:
    print("error")
```

```
else
task2
C:\Users\Kulkarni\PycharmProjects\task1\v
0
1
2
```

iii)

```
count = 0
while True:
    print(count)
    count += 1
    if count >= 5:
        break
```

```
while True  ›  if count >= 5
task2
C:\Users\Kulkarni\PycharmProjects\task1\venv\Scripts\py
0
1
2
3
4
```

7. Write a program that prints all the numbers from 0 to 6 except 3 and 6.

Expected output: 0 1 2 4 5

Note: Use the 'continue' statement

```
for x in range(6):
    if (x == 3 or x==6):
        continue
    print(x,end=' ')
print("\n")
```

```
task2
C:\Users\Kulkarni\PycharmProjects\task1\venv\Scripts\
0 1 2 4 5
```

8. Write a program that accepts a string as an input from the user and calculate the number of digits and letters.

Expected output: consul12

Letters 6

Digits 2

```
s = input("Input a string")
d = l = 0
for c in s:
    if c.isdigit():
        d = d + 1
    elif c.isalpha():
        l = l + 1
    else:
        pass
print("Letters", l)
print("Digits", d)
```

```
Terminal:  Local  +
Microsoft Windows [Version 10.0.18362.720]
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(venv) C:\Users\Kulkarni\PycharmProjects\task1>python task2.py
Input a string consul12
Letters 6
Digits 2
```

9. Read the two parts of the question below:

- Write a program such that it asks users to “guess the lucky number”. If the correct number is guessed the program stops, otherwise it continues forever.

```
while True:
    number = int(input("Guess the lucky number "))
    if number != 5:
        print("That is not the lucky number")
        continue
    break
```

```
while True  ›  if number != 5
list
"C:\Users\Kulkarni\PycharmProjects\Task 3\venv\Scripts\python.exe" "C:/Us
Guess the lucky number 10
That is not the lucky number
Guess the lucky number 4
That is not the lucky number
Guess the lucky number 2
That is not the lucky number
Guess the lucky number 8
That is not the lucky number
Guess the lucky number 9
That is not the lucky number
Guess the lucky number 5

Process finished with exit code 0
```

- Modify the program so that it asks users whether they want to guess again each time. Use two variables, ‘number’ for the number and ‘answer’ for the answer to the question of whether they want to continue guessing. The program stops if the user guesses the correct number or answers “no”. (The program continues as long as a user has not answered “no” and has not guessed the correct number)

```
number = -1
again = "yes"
while number != 5 and again != "no":
    number = int(input("Guess the lucky number: "))
    if number != 5:
        print("That is not the lucky number")
        again = input("Would you like to guess again? ")
        continue
    break
```

```
while number != 5 and again != ...
Terminal:  Local  +
Microsoft Windows [Version 10.0.18362.778]
                                        (venv) C:\Users\Kulkarni\PycharmProjects\Task 3> python list.py
Guess the lucky number: 1
That is not the lucky number
Would you like to guess again? yes
Guess the lucky number: 4
That is not the lucky number
Would you like to guess again? no

(venv) C:\Users\Kulkarni\PycharmProjects\Task 3> python list.py
Guess the lucky number: 1
That is not the lucky number
Would you like to guess again? yes
Guess the lucky number: 5

(venv) C:\Users\Kulkarni\PycharmProjects\Task 3>
```

10. Write a program that asks five times to guess the lucky number. Use a while loop and a counter, such as

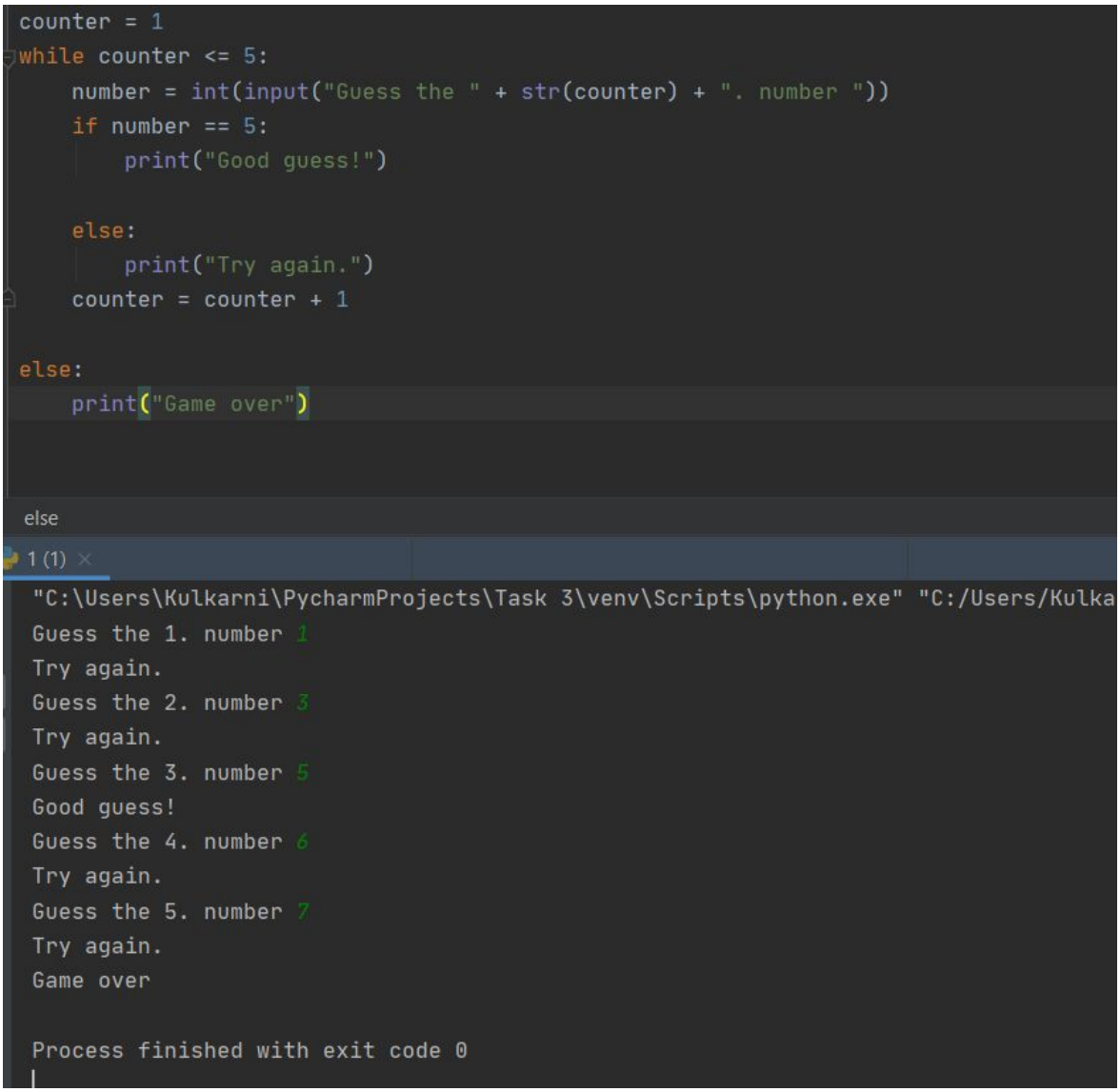
    counter=1

    While counter <= 5:

        print(“Type in the”, counter, “number”

        counter=counter+1

    The program asks for five guesses (no matter whether the correct number was guessed or not). If the correct number is guessed, the program outputs “Good guess!”, otherwise it outputs “Try again!”. After the fifth guess, it stops and prints “Game over!”.



11. In the previous question, insert “break” after the “Good guess!” print statement. “break” will terminate the while loop so that users do not have to continue guessing after they found the number. If the user does not guess the number at all, print “Sorry but that was not very successful”.

```python
counter = 1
while counter <= 5:
    number = int(input("Guess the " + str(counter) + ". number "))
    if number != 5:
        print("Try again.")
    else:
        print("Good guess!")
        break
    counter = counter + 1
else:
    print("Sorry but that was not very successful")
```

```
Microsoft Windows [Version 10.0.18362.778]
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(venv) C:\Users\Kulkarni\PycharmProjects\Task 3>python 1.py
Guess the 1. number 3
Try again.
Guess the 2. number 6
Try again.
Guess the 3. number 5
Good guess!
(venv) C:\Users\Kulkarni\PycharmProjects\Task 3>python 1.py
Guess the 1. number 7
Try again.
Guess the 2. number 8
Try again.
Guess the 3. number 9
Try again.
Guess the 4. number 2
Try again.
Guess the 5. number 3
Try again.
Sorry but that was not very successful
(venv) C:\Users\Kulkarni\PycharmProjects\Task 3>
```