TASK TWO: OPERATORS AND DECISION MAKING STATEMENT

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.

```
number = int(input("Enter an input "))
if number % 5 == 0 and number % 3 == 0:
    print("Consultadd Python Training")
elif number % 5 == 0:
    print("c")
elif number % 3 == 0:
    print("Consultadd")
else:
    print("Different output")
```

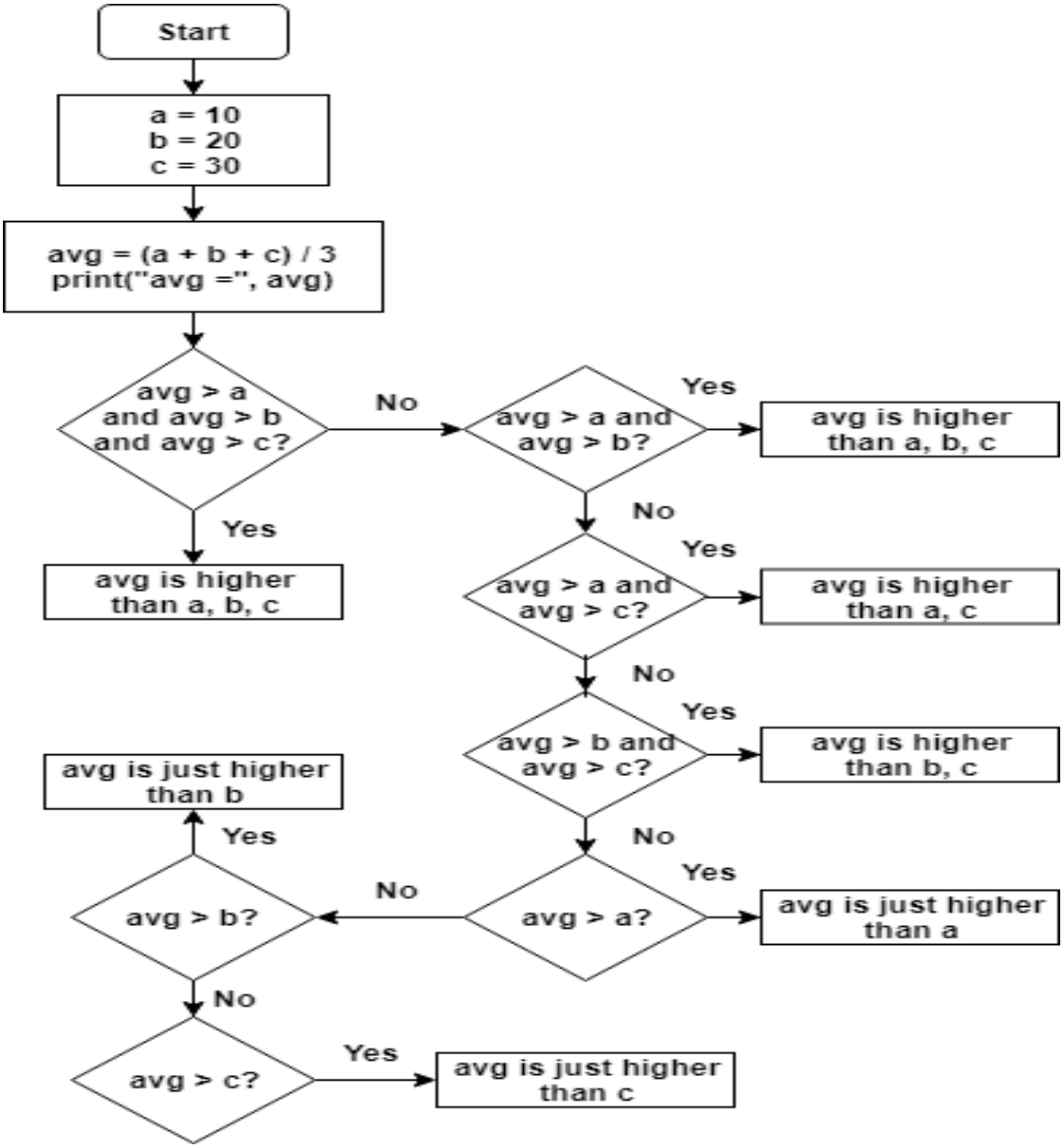
2. Write a program in Python to perform the following operator based task:

- Ask 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 user to enter two numbers and keep those numbers in variables ***num1*** and ***num2*** respectively for the first 4 options mentioned above.
- Ask the user to enter two more numbers as ***first*** and ***second*** for calculating the average as soon as the user chooses an option 5.
- At the end if the answer of any operation is Negative print a statement saying ***“NEGATIVE”***
- NOTE: At a time a user can only perform one action.

```
operation= int(input("""
Enter 1 - Addition
Enter 2 - Subtraction
Enter 3 - Division
Enter 4 - Multiplication
Enter 5 - Average:
"""))
if operation == 5:
    first, second = int(input("Enter first number for average: ")), \
                    int(input("Enter second number for average: "))
    avg = (first+second)/2
    if avg <0:
        print("\nNEGATIVE")
    print()
else:
    if operation > 5 or operation < 0:
        print("Invalid input")
    elif operation < 5 and operation > 0:
        num1, num2 = int(input("Enter number 1: ")), int(input("Enter number 2: "))
        if operation == 1:
            addition = num1 + num2
            if addition < 0:
                print("\nNEGATIVE")
        elif operation == 2:
            subtraction = num1 - num2
            if subtraction <0:
                print("NEGATIVE")
        elif operation == 3:
            division = num1 / num2
            if division < 0:
                print("NEGATIVE")
        elif operation == 4:
            multiplication = num1 * num2
            if multiplication < 0:
                print("NEGATIVE")
```

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


Start
a = 10
b = 20
c = 30
avg = (a + b + c) / 3
print("avg =", avg)
avg > a and avg > b and avg > c?
Yes
avg is higher than a, b, c
No
avg > a and avg > b?
Yes
avg is higher than a, b, c
No
avg > a and avg > c?
Yes
avg is higher than a, c
No
avg > b and avg > c?
Yes
avg is higher than b, c
No
avg > a?
Yes
avg is just higher than a
No
avg > b?
Yes
avg is just higher than b
No
avg > c?
Yes
avg is just higher than c

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

avg = (a+b+c)/3
print("avg", avg)
if avg > a and avg > b and avg > c:
    print("avg is higher then ", a,b,c)
elif avg > a and avg > b:
    print("avh is higher than", a, b, c)
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)

```

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

- If user enters a negative number just ***break*** the loop and print ***"It's Over"***
- If user enters a positive number just ***continue*** in the loop and print ***"Good Going"***

```
90
91  while True:
92      number = int(input("Enter a number "))
93      if number < 0:
94          print("It's over")
95          break
96      elif number >0:
97          print("Good Going")
98          continue
```

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.

```
103 numbers = []
104 for i in range(2000, 3200):
105     if i % 7 ==0 and not i % 5 ==0:
106         numbers.append(i)
107 print(numbers)
```

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

- x=123

  for i in x:

  print(i)

```
    for i in x:
TypeError: 'int' object is not iterable

Process finished with exit code 1
```

- i = 0

  while i < 5:

  print(i)

  i += 1

  if i == 3:

  break

  else:

  print(“error”)

```
    print(“error”)
                ^
SyntaxError: invalid character in identifier

Process finished with exit code 1
```

- count = 0

  while True:

  print(count)

  count += 1

  if count >= 5:

  Break

```
Traceback (most recent call last):
  File "/Users/jansherkhan/PycharmProjects/ProjectH
    Break
NameError: name 'Break' is not defined

Process finished with exit code 1
```

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 ***'continue'*** statement

```
146 for i in range(0, 7):
147     if i == 3 or i == 6:
148         continue
149     else:
150         print(i)
```

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

Sample input: ***consul12***

Expected output: ***Letters 6***

Digits 2

```
157 string = str(input("Enter the string"))
158 #print(x)
159 letters = 0
160 digits = 0
161 for i in string:
162     if i.isalpha():
163         letters +=1
164     elif i.isdigit():
165         digits += 1
166
167 print("Letters "+ str(letters),"\nDigits " + str(digits))
```

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.

```
174  while True:
175      if int(input("guess the lucky number ")) == 9:
176          break
177      else:
178          continue
```

- 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 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)

```
181  while True:
182      number = int(input("guess the lucky number "))
183      if number == 9:
184          break
185      else:
186          answer = str(input("Do you want to guess again? press Enter key to continue or type no to exit "))
187          if answer.isalpha() and answer == "no":
188              break
189          elif answer.isdigit():
190              continue
```

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!"***.

```
counter = 1
while counter <= 5:
    number = int(input("guess the lucky number (" + str(6-counter) + ") left "))
    counter += 1
    if number == 9:
        print("Good guess!")
    if counter == 6:
        print("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"***.

```
while counter <= 5:
    number = int(input("guess the lucky number (" + str(6-counter) + ") left "))
    counter += 1
    if number == 9:
        print("Good guess!")
        break
    if counter == 6:
        print("Sorry but that was not very successful")
```