

Programming Fundamentals

Tutorial 4

Note: You are not allowed to copy-paste code snippets. You need to have a basic understanding of following concepts at the end of the Tutorial

- Use Python while loops
 - Common mistakes when using while loops
 - While- Else
 - Continue and break
1. Print multiplication table of a given number
 2. Write a program that contains a while loop that will sum the int values entered by a user until the user enters a -1. Then print the total
 3. Create a program to guess the hidden number
 - a. Store a fixed number in a variable before the guessing game starts
 - b. Ask the user to enter a number
 - c. Store the number of guesses
 - d. When starts the game, keep the score as 100 and reduce 5 for each attempt
 - e. When the score reaches 0 or user guesses the number, the program terminates
 4. Enhance the above program by generating a random hidden number. Refer following statement to use the random number generation

```
import random #import the random module  
random.randint(start,end) # start, end parameters to define a range of the generation
```

5. Print the following pattern using a while loop

```
1  
12  
123  
1234  
12345  
123456
```

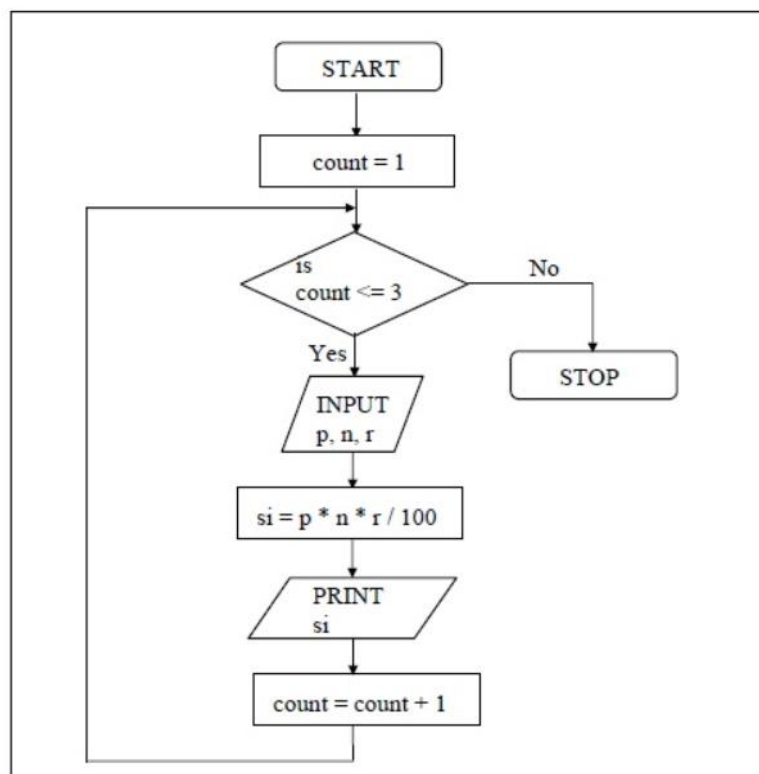
6. Run the following code snippets and see the output. What causes this abnormal output? Fix it appropriately

- a.

```
counter=1
while counter !=100
    print(counter)
```
- b.

```
import random as rand
var=10
gen_num=rand.randint(1,1515151515)
while gen_num != 2:
    print("Random num is not 2")
else:
    print("Finally it is 2")
```

7. Write the python code for the following flowchart



8. Use python break, continue and else to obtain the following output

#with break and else. Please note that loop runs from 9 to 0

```
('Current value :', 9)
('Current value :', 8)
('Current value :', 7)
('Current value :', 6)
```

#with continue and else. Please note that loop runs from 9 to 0

```
('Current value :', 9)
('Current value :', 8)
('Current value :', 7)
('Current value :', 6)
('Current value :', 4)
('Current value :', 3)
('Current value :', 2)
('Current value :', 1)
('Current value :', 0)
bye!
```