



<b>Name of the Bundle</b>	Intermediate Bundle V1	<b>Subject</b>	Python Programming V1
<b>Topic</b>	Looping Structures	<b>Last updated on</b>	17 August 2024

1. Which of the following is not used as a loop in Python?

- a. for loop
- b. while loop
- c. do-while loop
- d. None of the above

**Ans: c. do-while loop**

**Explanation:** do-while loop is not in Python. There are only two loops in Python. (while and for loops)

2. Which of the following is True regarding loops in Python?

- a. Loops are used to perform certain tasks.
- b. While loop is used when multiple statements are to be executed repeatedly until the given condition becomes False
- c. While loop is used when multiple statements are to be executed repeatedly until the given condition becomes True.
- d. for loop can be used to iterate through the elements of lists.

**Ans: b. While loop is used when multiple statements are to be executed repeatedly until the given condition becomes False**

**Explanation:** While loop is used when multiple statements are to be executed repeatedly until the given condition becomes False.



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3. Which of the following is True regarding loops in Python?

- a. Loops should be ended with the keyword "end".
- b. No loop can be used to iterate through the elements of strings.
- c. Keyword "break" can be used to bring control out of 7 of the current loop.
- d. Keyword "continue" is used to continue with the remaining statements inside the loop.

**Ans: c. Keyword "break" can be used to bring control out of the current loop.**

**Explanation:** Keyword break can be used to stop the execution of the loop and bring control out of the current loop.

4. What will be the output of given Python code?

```
str1="hello"  
c=0  
for x in str1:  
    if (x! = "l"):  
        c=c+1  
    else:  
        pass  
print(c)
```

- a. 2
- b. 0
- c. 4
- d. 3

**Ans: d. 3**

**Explanation:** 3 will be the output of given Python code. The loop is used to count the characters other than 'l' in the string



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5. Which of the following Python code will give different output from the others?

- a. for i in range (0,5):  
    print(i)
- b. for j in [0,1,2,3,4]:  
    print(j)
- c. for k in [0,1,2,3,4,5]:  
    print(k)
- d. for l in range (0,5,1):  
    print(l)

**Ans: c. for k in [0,1,2,3,4,5]:**

**print(k)**

**Explanation:** Option C python code will give different output from the others.

6. How many times will the loop run?

```
i=2  
  
while(i>0):  
  
    i=i-1
```

- a. 2
- b. 3
- c. 1
- d. 0

**Ans: a. 2**

**Explanation:** The loop will be executed two times. The loop variable is initialized to 2. And the loop runs till  $i > 0$ , i.e., when  $i = 2$  & 1.



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7. What will be the output of the following Python code?

```
for i in range (0, 2, -1):
```

```
print("Hello")
```

- a. Hello
- b. Hello Hello
- c. No Output
- d. Error

**Ans: c. No Output**

**Explanation:** There will be no output. Range is from 0 to 2. But the step is -2. Range cannot go backwards from 0.

8. Which one of the following is a valid Python if statement?

- a. if a>=2:
- b. if (a >= 2)
- c. if (a => 22)
- d. if a >= 22

**Ans: a. if a>=2:**

**Explanation:** The 'if' statement should end with a colon (:).

9. In a Python program, a control structure \_\_\_\_\_.

- a. Defines program-specific data structures
- b. Directs the order of execution of the statements in the program
- c. Dictates what happens before the program starts and after it terminates
- d. None of the above

**Ans: b. Directs the order of execution of the statements in the program**

**Explanation:** Control structures determine the order in which statements are executed, allowing some to run or be skipped based on conditions. Statements outside these structures run one after the other in sequence.



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10. Does python have switch case statements?

- a. Yes
- b. No
- c. Python has a switch statement but we cannot use it.
- d. None of the above

**Ans: b. No**

**Explanation:** Python does not have switch case statements.

11. Which of the following is a valid for loop in Python?

- a. for (i=0; i< n; i++)
- b. for i in range (0,5):
- c. for i in range (0,5)
- d. for i in range (5)

**Ans: b. for i in range (0,5):**

**Explanation:** For statement always ended with a colon (:). Option a is not a Python syntax. Options c and d generate errors because they do not end with colon (:).

12. Which of the following sequences would be generated by the given line of code?

range (5, 0, -2)

- a. 5 4 3 2 1 0 -1
- b. 5 4 3 2 1 0
- c. 5 3 1
- d. None of the above

**Ans: c. 5 3 1**

**Explanation:** The initial value is 5 which is decreased by 2 till 0. we get 5, 2 & 1. The next in this range would be -1 which is less than 0. So the loop stops there.



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13. What will be the output of the following code?

```
for i in range(5):  
    if i == 2:  
        break  
    print(i)  
a. 0 1 2 3 4  
b. 0 1  
c. 0 1 2  
d. 1 2 3 4
```

**Ans: 0 1**

**Explanation:** The break stops the loop when i is 2, so only 0 and 1 are printed.

14. A while loop in Python is used for what type of iteration?

- a. Indefinite
- b. Discriminant
- c. Definite
- d. Indeterminate

**Ans: a. Indefinite**

**Explanation:** A while loop is used when the number of iterations to be taken is not known in advance. Where else a for loop is used when the number of iterations to be taken is known or definite.

15. A while loop executes repeatedly as long as its condition \_\_\_\_\_.

- a. remains false
- b. remains true
- c. gives an error
- d. times out

**Ans: b. remains true**

**Explanation:** The while loop continues as long as the condition is true.



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16. How do you combine multiple conditions in a while loop?

- a. Using +
- b. Using relational operators
- c. Using logical operators
- d. Using assignment operators

**Ans: c. Using logical operators**

**Explanation:** Logical operators (and, or) combine multiple conditions.

17. When does the else statement written after the loop execute?

- a. When break statement is executed in the loop
- b. When loop condition becomes false
- c. Else statement is always executed
- d. None of the above

**Ans: b. When loop condition becomes false**

**Explanation:** The else statement following a while loop in Python is executed only when the loop condition becomes False, indicating that the loop has completed all its iterations without being interrupted by a break statement.

18. What happens if the increment/decrement statement is omitted in a while loop?

- a. Works well
- b. Error
- c. Runs infinitely
- d. None of the above

**Ans: c. Runs infinitely**

**Explanation:** Without an increment/decrement, the condition never changes, causing an infinite loop.



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19. What will be the output of the following code?

```
x = "abcdef"
```

```
i = "i"
```

```
while i in x:
```

```
    print(i, end=" ")
```

- a. a b c d e f
- b. abcdef
- c. iiiii
- d. No Output

**Ans: d. No Output**

**Explanation:** There will be no output. Variable i is assigned "i" which is a string of single character and not an integer. The loop checks for "i" in the string. Since there is no i in the string x nothing gets printed.

20. What will be the output of the following code?

```
x = "abcd"
```

```
for i in range(len(x)):
```

```
    print(i, end=' ')
```

- a. a b c d
- b. 0 1 2 3
- c. 1 2 3 4
- d. a b c d

**Ans: b. 0 1 2 3**

**Explanation:** Function len(x) will return 4 and the loop will run for 4 times starting from 0. Variable i will count from 0 to 4. It is i which gets printed and not x[i]. Hence output will be 0 1 2 3.





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21. What will be the output of the following code?

```
x = 12
```

```
for i in x:
```

```
    print(i)
```

- a. 12
- b. 1 2
- c. Error
- d. None of the above

**Ans: c. Error**

**Explanation:** This code generates a TypeError. Variable i is not an iterable.

It should be an iterable like a string, list or tuple.

22. A loop becomes an infinite loop if a condition never becomes \_\_\_\_\_.

- a. TRUE
- b. FALSE
- c. Null
- d. Both A and C

**Ans: b. FALSE**

**Explanation:** A loop runs as long as its condition is true and stops when the condition becomes false. If the condition never becomes false, the loop continues forever, which is called an infinite loop.



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23. If the else statement is used with a while loop, the else statement is executed when the condition becomes \_\_\_\_\_.

- a. TRUE
- b. FALSE
- c. Infinite
- d. Null

**Ans: b. FALSE**

**Explanation:** If the else statement is used with a while loop, the else statement is executed when the condition becomes false. It is a must that no break statement gets executed inside the loop.

24. What do you call a loop within a loop in Python programming?

- a. Switch
- b. Foreach
- c. Nested loop
- d. Forall

**Ans: c. Nested loop**

**Explanation:** Python allows loop written a loop. It is called a nested loop.

25. The \_\_\_\_\_ statement is a null operation.

- a. break
- b. exit
- c. return
- d. pass

**Ans: d. pass**

**Explanation:** The pass statement is a null operation; nothing happens when it is executed.



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26. Where can the 'continue' statement be used?

- a. while loop
- b. for loop
- c. do-while
- d. Both a and b

**Ans: d. Both a and b**

**Explanation:** The continue statement can be used in both while and for loops in Python. It is used to skip the current iteration and start with the next iteration from the beginning.

27. What is the equivalent form of the range function when called with a single argument, range(3), in Python?

- a. range (1,3)
- b. range (0,3)
- c. range (0,3,1)
- d. range (1,3,0)

**Ans: c. range (0,3,1)**

**Explanation:** The first parameter is the start and the second is end. The third one which is optional is the step.



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28. What is the output of the following code?

```
for word in "Jump Statement":
```

```
    if word == "u":
```

```
        break
```

```
print (word, end="")
```

- a. Jump Statement
- b. Jump
- c. u
- d. Ju

**Ans: c. u**

**Explanation:** The for loop goes through each character in the string 'Jump Statement.' When it reaches the character 'u,' the break statement stops the loop, so 'u' is printed as the final output.

29. What is the output of the following code?

```
for word in "Jump Statement":
```

```
    if word == "e":
```

```
        continue
```

```
print (word, end="")
```

- a. Jump Statement
- b. Jump Statmnt
- c. Jump
- d. Statmnt

**Ans: b. Jump Statmnt**

**Explanation:** The for loop goes through each character in the string 'Jump Statement.' When it encounters the character 'e,' the continue statement skips it, resulting in the output 'Jump Statmnt,' which is the string without the letter 'e.'



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30. Which of the following jump statements is used to terminate the loop?

- a. continue
- b. goto
- c. pass
- d. break

**Ans: d. break**

**Explanation:** break statement terminates the loop and moves the control over to the next executable statement after the loop in the program.

31. Which of the following functions is used in python for loop to specify the initial, final and increment values?

- a. range ()
- b. print ()
- c. format ()
- d. input ()

**Ans: a. range ()**

**Explanation:** range () function specifies the initial, final and increment values with its three parameters namely, start, stop and step. Both start and step can be optional. The default values of start are 0 and step is 1.



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32. \_\_\_\_ statement is used to skip the remaining part of the loop and start with the next iteration.

- a. pass
- b. break
- c. continue
- d. range

**Ans: c. continue**

**Explanation:** The 'continue' statement is used to skip the remaining part of the loop and start the next iteration from the beginning.

33. What are the two primary categories of loops in programming?

- a. for, while
- b. while, if
- c. for, if
- d. if, if else

**Ans: a. for, while**

**Explanation:** for and while are the only two types of loops available in Python.



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34. Choose the output for the following:

```
for i in range (10,13):
```

```
print (i*i)
```

a. 100

121

144

b. 100

12

144

c. 169

100

121

d. 100

169

**Ans: a. 100**

**121**

**144**

**Explanation:** The range function is provided with the start and stop parameters. The loop will get executed three times for this range (10, 11 and 12). Expression  $i*i$  will result in three values ( $10 * 10$ ,  $11*11$  and  $12*12$ ).



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35. The for loop is used when we are sure about how many times a loop body will be executed. It is also known as \_\_\_\_\_.

- a. Definite loop
- b. Indefinite loop
- c. Infinite loop
- d. Finite loop

**Ans: a. Definite loop**

**Explanation:** The for loop is called a definite loop because you know in advance how many times it will run. In contrast, the while loop is called an indefinite loop since you don't know how many times it will execute.

36. The repetition that takes place inside a loop is also called \_\_\_\_\_.

- a. Indentation
- b. Iteration
- c. Both a and b
- d. None of the above

**Ans: b. Iteration**

**Explanation:** Iteration is the process of executing the statements within the loop block, moving sequentially from top to bottom. A loop may consist of one or more iterations.





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37. What will happen when the condition becomes false in the loop?

- a. Loop executes
- b. Loop Terminates
- c. Loop repeat once again
- d. All of the above

**Ans: b. Loop Terminates**

**Explanation:** When the condition becomes False, the loop terminates and the control is moved to the next executable statement after the loop.

38. What will be the output after the following statements?

```
x = 1
while x < 10:
    print (x, end="")
    x = x + 1
```

- a. 123456789
- b. 1
- c. 10
- d. 2

**Ans: a. 123456789**

**Explanation:** The loop is initialized to 1 and it keeps iterating and printing it as long as it is less than 9.



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39. What will be the output after the following statements?

```
x = 0
```

```
y = 4
```

```
while x + y < 10:
```

```
    print (x, end="")
```

```
    x += 1
```

- a. 012345
- b. 0123456789
- c. 4123456789
- d. 048

**Ans: a. 012345**

**Explanation:** The loop prints values of x from 0 to 5 while y remains unchanged. It stops when the sum of x and y is 10 or more.

40. What will be the output after the following statements?

```
x = 1
```

```
y = 4
```

```
while x * y < 10:
```

```
    print (y, end="")
```

```
    y += 1
```

- a. 012345
- b. 456789
- c. 123456789
- d. 0123456789

**Ans: b. 456789**

**Explanation:** The loop prints values of y starting from 4 and increases each time. It stops when the product of x and y is 10 or more, while x remains unchanged.



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41. What will be the output of the following statements?

```
x, y = 0, 1
while y < 10:
    print(y)
    x, y = y, x + y
```

a. 1 1 2 3 5 8  
b. 0112358  
c. 0123456789  
d. 0 2 4 6 8

**Ans: a. 1 1 2 3 5 8**

**Explanation:** Statement `x, y = 0, 1` is a multiple assignment in Python. Here, 0 assigned to the variable `x` and 1 to `y`.

42. What type of loop is this?

```
x = 1
while x < 5:
    print(x, end="")
```

a. Closed loop  
b. One time loop  
c. Infinite loop  
d. Evergreen loop

**Ans: c. Infinite loop**

**Explanation:** The loop prints 1 endlessly because no step is provided to change the condition. Since the condition never becomes false, the loop runs infinitely.



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43. Which of the following is true regarding the body of the loop?

- a. It is a block of one or more statements
- b. Statements in the block have the similarly increased indent
- c. It is executed for each iteration
- d. All of the above

**Ans: d. All of the above**

**Explanation:** The block of a loop starts with a new indent. This block can have one or more statements and it cannot be empty.

44. The else keyword can be used along with which of the following?

- a. for
- b. while
- c. if
- d. All of the above

**Ans: d. All of the above**

**Explanation:** The else keyword can be used with the 'if' condition and with the both 'for' and 'while' loops.

45. What is the output of the following code?

```
i = 1;while(i <= 5):
```

```
    print('Hi')
```

```
    i = i + 1
```

- a. Prints 'Hi' once
- b. Prints 'Hi' infinitely
- c. No output
- d. Prints 'Hi' 5 times

**Ans: d. Prints 'Hi' 5 times**

**Explanation:** The loop prints 'Hi' five times as i increments with each iteration until the condition fails.



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46. What is the basic structure of a while loop in Python?

- a. while condition: statement
- b. while (condition) {statement}
- c. while condition do: statement
- d. while condition [statement]

**Ans: a. while condition: statement**

**Explanation:** In Python, a while loop is written as 'while' followed by a condition, a colon, and followed by the statement(s) or block to be executed.

47. How do you ensure a while loop runs at least once regardless of the condition?

- a. Using a do-while loop
- b. By setting the condition to True initially
- c. It's not possible in Python
- d. By writing the loop body before the condition

**Ans: c. It's not possible in Python**

**Explanation:** Python doesn't have a do-while loop construct that guarantees at least one execution of the loop body.

48. How do you create an infinite loop?

- a. while True:
- b. while False:
- c. while 1 == 1:
- d. Both a and c

**Ans: d. Both a and c**

**Explanation:** creates infinite loops because both while True: and while 1 == 1: always evaluate to true.



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49. What is the output of the following code?

```
x = 5
while x > 3:
    print(x)
    x = x - 1
```

a. 5 4 3  
b. 5 4  
c. 5 4 3 2  
d. Infinite loop

**Ans: b. 5 4**

**Explanation:** Variable x is assigned with 5. The loop decrements x and prints its value as long as x is greater than 3.

50. The for loop in Python is an \_\_\_\_\_.

- a. Entry Controlled Loop
- b. Exit Controlled Loop
- c. Both of the above
- d. None of the above

**Ans: a. Entry Controlled Loop**

**Explanation:** The 'for' loop is an entry controlled loop. Control enters the loop only when the condition is true.



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51. A loop block in python starts with a \_\_\_\_\_.

- a. ; (semicolon)
- b. , (comma)
- c. : (colon)
- d. # (hash)

**Ans: c. :(colon)**

**Explanation:** The loop block starts after the colon (:) with a new indentation.

52. Which of the following is not a valid keyword of Python associated with loops?

- a. continue
- b. check
- c. range
- d. break

**Ans: b. check**

**Explanation:** Keyword check is not a valid keyword in Python.

53. Which of the following is a must for a Python for loop?

- a. Initial point.
- b. Terminating Condition.
- c. Hopping.
- d. Index.

**Ans: b. Terminating Condition.**

**Explanation:** Without the terminating condition the loop becomes an infinite loop.



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54. What does the range () function return?

- a. A list of numbers.
- b. An Object object.
- c. A range object.
- d. A string object.

**Ans: c. A range object.**

**Explanation:** The range functions return a range object. The statement print (list (range (5))) will return a list [0, 1, 2, 3, 4].

55. What is the purpose of the range() function in Python?

- a. To generate a sequence of numbers
- b. To break the for loop
- c. To define a function
- d. To execute a block of code repeatedly until a condition is false

**Ans: To generate a sequence of numbers**

**Explanation:** range() is used to create a sequence of numbers for iteration.

56. The \_\_\_\_\_ statement is a null operation.

- a. break
- b. exit
- c. return
- d. pass

**Ans: d. pass**

**Explanation:** The pass statement is a null operation. i.e., it does nothing. It is used as a placeholder in a loop or in an if condition. It is often used as a placeholder where syntactically some code is required, but no action is desired or needed.





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57. If the condition of the while loop is initially false, the loop will execute \_\_\_\_.

- a. Only one time
- b. three times
- c. two times
- d. zero time

**Ans: d. zero time**

**Explanation:** If the condition of a while loop is false at the start, the loop won't run at all. So, it executes zero times.

58. When will the else part of a while loop get executed?

- a. Always
- b. Only when the while part is fully completed
- c. Never
- d. Depends

**Ans: b. Only when the while part is fully completed**

**Explanation:** The else part of a while loop gets executed only when the while loop finishes normally, meaning the condition becomes false. It won't run if the loop is stopped with a break statement.

59. Which of the following parameters of range() function is optional?

- a. start
- b. step
- c. both A and B
- d. stop

**Ans: c. Both A and B**

**Explanation:** In the range() function, both start and step are optional. You just need to provide a stop to use it.



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60. range (3) can also be written as -

- a. range(1,3)
- b. range(0,3)
- c. range(0,2)
- d. range(1,4)

**Ans: b. range(0,3)**

**Explanation:** range(3) is the same as range(0, 3) because it starts at 0 by default and goes up to, but does not include, 3. So, it generates the numbers 0, 1, and 2.