PYTHON LOOP Q & A

Section-A

1. What is the purpose of the while loop in Python?

a) To execute a block of code repeatedly until a condition is false

b) To execute a block of code a fixed number of times

c) To define a function

d) To iterate over items in a sequence

2. What is the syntax for a while loop in Python?

a) while condition:

b) while condition():

c) while (condition):

d) while loop condition:

3. How can you exit a loop prematurely in Python?

a) Using the break statement

b) Using the continue statement

c) Using the pass statement

d) Using the exit function

4. What is the purpose of the for loop in Python?

a) To execute a block of code repeatedly until a condition is false

b) To iterate over items in a sequence

c) To execute a block of code a fixed number of times

d) To define a function

5. What is the syntax for a for loop in Python?

a) for item in sequence

b) for item in range(n):

c) for index in range(len(sequence)):

d) All of the above

6. What will the following code snippet print?

```python
fruits = ["apple", "banana", "cherry"]
for fruit in fruits:
    print(fruit)
```

a) apple banana cherry

b) ["apple", "banana", "cherry"]

c) 0 1 2

d) No output

7. How can you skip the current iteration of a loop and continue with the next iteration?

a) Using the skip statement

b) Using the pass statement

c) Using the break statement

d) Using the continue statement

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

a) To generate a sequence of numbers

b) To iterate over items in a sequence

c) To define a function

d) To execute a block of code repeatedly until a condition is false

9. What will the following code snippet print?

```python
for i in range(3):
    print(i)
```

a) 0 1 2

b) 1 2 3

c) 2 1 0

d) 3 2 1 0

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

```python
for i in range(1, 6):
    if i == 3:
        continue
    print(i)
```

a) 1 2

b) 1 2 3

c) 1 2 4 5

d) 1 2 4

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

```python
for i in range(3):
    for j in range(3):
```

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

a) 0 1 2

1 2 3

2 3 4

b) 0 1 2

1 2 3

2 3 4

3 4 5

c) 0 1 2

1 2 3

2 3 4

4 5 6

d) 0 1 2

2 3 4

4 5 6

12. What will be printed by the following code?

```python
num = 5
while num > 0:
    print(num)
    num -= 1
    if num == 3:
        break
else:
    print("Done")
```

a) 5 4 3 2 1

b) 5 4

c) Done

d) 5 4 3

13. What is the output of the following code?

```python
x = 10
if x > 5:
    print("A")
elif x > 7:
    print("B")
else:
    print("C")
```

a) A

b) B

c) C

d) A and B

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

```python
x = 5
while x > 0:
    print(x, end=" ")
    x -= 2
    if x == 1:
        break
else:
    print("Done")
```

a) 5 3 1

b) 5 3

c) 5 3 Done

d) 5 3 1 Done

15. What is the output of the following code?

```python
for i in range(5):
    if i == 2:
        continue
    print(i, end=" ")
```

a) 0 1 3 4

b) 0 1 2 3 4

c) 0 1 3 4 5

d) 0 1 2 3 4 5

16. What is the output of the following code?

```python
num = 0
while num < 5:
    print(num)
    num += 1
else:
    print("Loop completed.")
```


a) 0 1 2 3 4

b) 0 1 2 3 4 Loop completed.

c) Loop completed.

d) This code will result in an error.

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

```python
x = 10
if x > 5:
    print("Greater than 5")
if x > 8:
    print("Greater than 8")
if x > 12:
    print("Greater than 12")
else:
    print("Equal or less than 12")
```

a) Greater than 5

Greater than 8

Equal or less than 12

b) Greater than 5

Greater than 8

Greater than 12

Equal or less than 12

c) Greater than 5

Greater than 8

d) Equal or less than 12

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

```python
for i in range(3):
    for j in range(3):
        print(i * j, end=' ')
    print()
```

a) 0 0 0

0 1 2

0 2 4

b) 0 1 2

0 2 4

0 3 6

c) 0 0 0

0 1 2

0 2 4

0 3 6

d) 0 0 0

0 1 2

0 1 2

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

```python
num = 10
while num > 0:
    print(num)
    num -= 3
else:
    print("Loop completed.")
```

a) 10 7 4 1 Loop completed.

b) 10 7 4 1

c) Loop completed.

d) This code will result in an error.

20. What will the following code snippet print?

```python
for i in range(3):
    pass
print(i)
```

a) 0 1 2

b) 1 2 3

c) 2 1 0

d) 3 2 1 0

21. What is the purpose of the `pass` statement in Python?

a) To exit from a loop prematurely

b) To skip the current iteration of a loop

c) To execute a block of code if a condition is false

d) To do nothing and act as a placeholder

22. What is the purpose of the else block in a loop in Python?

a) To execute if the loop encounters an error

b) To execute if the loop completes without encountering a break statement

c) To execute if the loop encounters a continue statement

d) To execute if the loop encounters a pass statement

23. What is the output of the following code?

```python
x = 10
if x > 5:
    print("Hello")
elif x > 8:
    print("Hi")
else:
    print("Hey")
```

a) Hey

b) Hi

c) Hello

d) Hello, Hi

24. What is the output of the following code?

```python
for i in range(1, 6):
    if i % 2 == 0:
        print(i)
        continue
```

```
print("*")
```

a) \n2\n\n4\n*

b) \n2\n\n4\n*\n

c) \n2\n\n*\n4\n

d) \n\n2\n*\n4\n

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

```
x = 5
while x > 0:
    print(x)
    x -= 1
else:
    print("Done")
```

a) 5\n4\n3\n2\n1\nDone

b) Done\n5\n4\n3\n2\n1

c) 5\n4\n3\n2\n1

d) Done

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

```
for i in range(1, 6):
    if i == 3:
        break
    print(i)
```

```python
else:
    print("Loop completed.")
```

a) 1\n2

b) 1\n2\n3\n4\n5\nLoop completed.

c) 1\n2\n3\n4\n5

d) 1\n2\n3

Section- B

1. What is a loop in Python?
2. Explain the difference between `for` and `while` loops in Python.
3. How do you use the `for` loop to iterate over a sequence in Python?
4. What is the purpose of the `range()` function in a for loop?
5. Explain the concept of an infinite loop and how to avoid it.
6. How can you use the `break` statement to exit a loop prematurely in Python?
7. Discuss the use of the `continue` statement in Python loops.
8. What is the role of the `else` clause in a `for` or `while` loop in Python?
9. How do you iterate over both the index and element in a sequence using the `enumerate()` function?
10. Explain the concept of a nested loop in Python.
11. Discuss the use of the `pass` statement in a loop block in Python.
12. How can you use the `zip()` function in a for loop to iterate over multiple sequences?
13. Explain the difference between the `range()` and `xrange()` functions in Python 2.
14. What is the purpose of the `iter()` and `next()` functions in Python loops?
15. How do you create an infinite loop using the `while` statement?
16. Discuss the concept of loop control statements (`break`, `continue`, and `pass`) in Python.

Section-C

1. **Print numbers from 1 to 10 using a for loop**:
2. **Calculate the sum of numbers from 1 to 10 using a for loop**:
3. **Print the elements of a list using a for loop**:
4. **Calculate the product of elements in a list using a for loop**:
5. **Print even numbers from 1 to 10 using a for loop**:
6. **Print numbers in reverse from 10 to 1 using a for loop**:
7. **Print characters of a string using a for loop**:
8. **Find the largest number in a list using a for loop**:
9. **Find the average of numbers in a list using a for loop**:
10. **Print all uppercase letters in a string using a for loop**:
11. **Count the number of vowels in a string using a for loop**:
12. **Print a pattern of stars using nested for loops**:
13. **Calculate factorial of a number using a while loop**:
14. **Find the first occurrence of a number in a list using a while loop**:
15. **Calculate the sum of numbers from 1 to 100 using a while loop**:
16. **Find all prime numbers between 1 and 50 using nested for and if**:
17. **Print numbers divisible by 3 or 5 from 1 to 20 using a for loop**:
18. **Print a list of squares of numbers from 1 to 5 using a list comprehension**:
19. **Print the Fibonacci sequence up to the 10th term using a while loop**:
20. **Find the common elements in two lists using a for loop**:
21. **Print numbers in a list until a negative number is encountered using a while loop**:
22. **Print numbers from 1 to 5, except 3 using a for loop and continue statement**:
23. **Print numbers from 1 to 10. If a number is divisible by 4, stop the loop using a for loop and break statement**:
24. **Print numbers from 1 to 10. If a number is even, skip it using a for loop and else clause**:
25. **Print numbers from 1 to 10. If a number is even, break the loop using a for loop and else clause**:

Section- D

1. Print the first 10 natural numbers using for loop.
2. Python program to print all the even numbers within the given range.

3. Python program to calculate the sum of all numbers from 1 to a given number.
4. Python program to calculate the sum of all the odd numbers within the given range.
5. Python program to print a multiplication table of a given number
6. Python program to display numbers from a list using a for loop.
7. Python program to count the total number of digits in a number.
8. Python program to check if the given string is a palindrome.
9. Python program that accepts a word from the user and reverses it.
10. Python program to check if a given number is an Armstrong number
11. Python program to count the number of even and odd numbers from a series of numbers.
12. Python program to display all numbers within a range except the prime numbers.
13. Python program to get the Fibonacci series between 0 to 50.
14. Python program to find the factorial of a given number.
15. Python program that accepts a string and calculates the number of digits and letters.
16. Write a Python program that iterates the integers from 1 to 25.
17. Python program to check the validity of password input by users.
18. Python program to convert the month name to a number of days.

1. What is the purpose of a pass command in python?

    a) To move the focus to another path
    b) It does not do anything
    c) Makes the variable move to another object
    d) Skip the printing of the output

Answer – a) It does not do anything

2. What is the keyword preceded by the break command in a loop?

    a) if
    b) when
    c) while
    d) after

Answer – a) if

3. Which of the following is not a part of a loop in Python?

    a) For
    b) elif

c) Loop
d) While

Answer – c) Loop