Loops in Python

1. **Which of the following loops will print the numbers from 0 to 4?**

   x=5

   for i in range(x):

   print(i)

   A) It will print 0 to 5
   B) It will print 0 to 4
   C) It will print 1 to 5
   D) It will print nothing

2. **How many times will the following loop execute?**

   for i in range(10):
   print(i)

   A) 9 times
   B) 10 times
   C) 11 times
   D) 0 times

3. **Which of the following can be used to exit a loop early in Python?**

   A) continue
   B) exit
   C) break
   D) stop

4. **What is the correct syntax to create an infinite loop in Python?**

   A) while True:
   B) while(1)
   C) while infinite:
   D) while(0)

5. **What is the output of the following code?**

```
count = 0
while count < 3:
    print("Hello")
    count += 1
```

A) Prints "Hello" 3 times
B) Prints "Hello" 4 times
C) Prints "Hello" infinitely
D) Error in code

6. **What does the continue statement do in a loop?**

A) Stops the loop
B) Skips to the next iteration
C) Exits the loop
D) Repeats the current iteration

7. **Which loop is typically used when the number of iterations is not known in advance?**

A) for loop
B) while loop
C) do-while loop
D) foreach loop

8. **What is the range of indices in this loop?**

```
for i in range(2, 6):
    print(i)
```

A) 2, 3, 4, 5
B) 2, 3, 4, 5, 6
C) 3, 4, 5
D) 2, 6

9. **How do you terminate a loop in Python?**

A) terminate
B) break
C) pass
D) continue

10. What is the output of this code?

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

A) 0 1 2

B) 1 2 3
C) 0 1 2 3
D) Error

11. What is the output of the following code?

```
x = 1
while x < 5:
    print(x)
    x += 2
```

A) 1 2 3 4

B) 1 3

C) 1 3 5

D) Infinite loop

12. What will the following code output?

```
for i in range(10, 5, -2):
    print(i)
```

A) 10, 9, 8, 7, 6
B) 10, 8, 6
C) 10, 9, 7
D) 10, 8

13. What is the output of the following code?

```
for i in range(5):
    if i == 3:
        break
    print(i)
```

A) 0 1 2 3
B) 1 2 3
C) 0 1 2
D) No output

14. What is the output of the following code?

```
for i in range(3):
    for j in range(2):
        print(i, j)
```

A) (0, 1), (1, 2), (2, 3)
B) (0, 0), (0, 1), (1, 0), (1, 1), (2, 0), (2, 1)
C) 0 1 2
D) 1 2

15. How many times will the following loop run?

```
i = 1
while i < 10:
    i += 3
```

A) 2 times
B) 3 times
C) 4 times
D) Infinite loop

16. What does the following code do?

```
for i in range(1, 10, 2):
    print(i)
```

A) Prints even numbers between 1 and 10
B) Prints odd numbers between 1 and 10
C) Prints all numbers between 1 and 10
D) Error

17. How can you skip printing number 3 in this loop?

```
for i in range(5):
    if i == 3:
        _____
    print(i)
```

A) break
B) skip
C) continue
D) pass

18. What is the output of this loop?

```
for i in range(2, 10, 3):
    print(i)
```

A) 2 5 8
B) 2 4 6 8
C) 2 5 9
D) 2 3 4 5

19. What is the output of the following nested loop?

```
for i in range(2):
    for j in range(2):
        print(i + j)
```

A) 0 1 1 2
B) 1 2
C) 1 1 1
D) 0 1 2

20. What is the correct syntax for a while loop?

A) while (x == 10) { print(x); }
B) while (x == 10):
C) while x == 10
D) while(x == 10)

21. What will the following code print?

```
for i in range(1, 5):
    for j in range(i):
        print(i, j)
```

A) (1, 0) (2, 0) (2, 1) (3, 0) (3, 1) (3, 2) (4, 0) (4, 1) (4, 2) (4, 3)
B) 1 2 3 4
C) No output
D) (0, 1) (1, 2) (2, 3)

22. What is the result of this list comprehension?

```
result = [i for i in range(5) if i % 2 == 0]
print(result)
```

A) [1, 3]
B) [0, 1, 2, 3, 4]
C) [0, 2, 4]
D) Error

23. What is the correct way to iterate through both index and value in a list?

A) for i in range(len(lst)):
B) for i, val in lst:
C) for i, val in enumerate(lst):
D) for i in enumerate(lst):

24. How many times will the loop run?

```
for i in range(10, 1, -3):
    print(i)
```

A) 3 times
B) 4 times
C) 2 times
D) 1 time