1. How many times will the following loop execute?

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

   A) 3

   B) 4

   C) 5

   D) Infinite

   ANSWER: B

2. In Python, what is the purpose of the if __name__ == "__main__": statement?

   A) It defines the starting point of a Python program

   B) It checks if a function is defined

   C) It allows the script to be run directly or imported as a module without executing the main code

   D) It is a syntax error in Python

   ANSWER: C

3. What does the count() method do in Python?

   A) It counts the number of occurrences of a character in a string.

   B) It returns the index of the first occurrence of a character.

   C) It counts the number of elements in a list.

   D) It counts the number of words in a string.

   ANSWER: A

4. What does the find() method return if the substring is not found in a string?

   A) None

   B) -1

   C) 0

   D) Error

   ANSWER: B

5. What does the following code print?
```
x = "100"
y = float(x)
print(type(y))
```

A) <class 'int'>

B) <class 'str'>

C) <class 'list'>

D) <class 'float'>

ANSWER: D

6. What does the pop() method do in a list?

A) Adds an item at the end of the list

B) Removes and returns the last item of the list

C) Removes the first item of the list

D) Clears the list

ANSWER: B

7. What happens if an error occurs in the try block and there is no matching except block?

A) The program continues execution as normal.

B) The program stops and displays an error.

C) The program skips to the next code after try.

D) The program catches the error automatically.

ANSWER: B

8. What is the main purpose of indentation in Python?

A) To make the code visually appealing

B) To create spaces between statements

C) To define code blocks, especially within loops, functions, and classes

D) To separate comments from code

ANSWER: C

9. What is the output of the following code?
   ```
   s = "Python"
   s = s[::2]
   print(s)
   ```

   A) Pto

   B) Pyt

   C) yhn

   D) Python

   ANSWER: A

10. What is the purpose of an if-elif-else structure?

    A) To iterate through elements

    B) To handle errors

    C) To choose between multiple execution paths based on conditions

    D) To define functions

    ANSWER: C

11. What is the result of sum(range(4))?

    A) 0

    B) 4

    C) 6

    D) 10

    ANSWER: C

12. What type of execution flow is being used when we include an if statement within another if statement?

    A) Sequential Execution

    B) Chained Execution

    C) Nested Execution

D) Conditional Execution

ANSWER: C

13. What will be the output of the following code?
```
x = "5.67"
y = int(float(x))
print(y)
```

A) 5.67

B) 5

C) Error

D) 6

ANSWER: B

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

```
lst = [1, 2, 3, 4, 5]

lst[1:3] = [6, 7, 8]

print(lst)
```

A) [1, 6, 7, 8, 4, 5]

B) [1, 2, 6, 7, 8, 4, 5]

C) [6, 7, 8, 4, 5]

D) [1, 2, 3, 4, 5, 6, 7, 8]

ANSWER: A

15. What will be the output of the following code?
```
s = "Python"
print(s[1:4])
```

A) Pyt

B) yth

C) thon

D) Py

ANSWER: B

16. What will be the output of the following expression?
    3 > 2 and 2 < 1 or 4 == 4

    A) True

    B) False

    C) None

    D) Syntax Error

    ANSWER: A

17. What will be the result of the following code?
    s1 = {1, 2, 3}
    s2 = {3, 4, 5}
    print(s1 & s2)

    A) {1, 2, 3, 4, 5}

    B) {3}

    C) {1, 2}

    D) {4, 5}

    ANSWER: B

18. What will be the result of the following code?
    s = "hello"
    print(s * 3)

    A) hellohellohello

    B) hello 3

    C) 3 hello

    D) hello hello hello

    ANSWER: A

19. What will happen if there is a finally block after a try-except block?

    A) finally block will execute only if an error occurs.

    B) finally block will always execute.

C) finally block will not execute at all.

D) It depends on the error.

ANSWER: B

20. What will the following code output?
```
s = "hello"
s = s.upper()
print(s)
```

A) HELLO

B) hello

C) Error

D) None

ANSWER: A

21. When using a try block, where should the error-handling code be placed?

A) Inside the try block

B) After the try block

C) Inside an except block

D) In a finally block

ANSWER: C

22. Which loop is best suited when the number of iterations is unknown?

A) for loop

B) while loop

C) do-while loop

D) Recursive loop

ANSWER: B

23. Which method is used to get the index of an element in a list?

A) index()

B) find()

C) get()

D) position()

ANSWER: A

24. Which method would you use to remove all whitespace characters from the beginning and end of a string?

A) str.strip()

B) str.trim()

C) str.clean()

D) str.remove()

ANSWER: A

25. Which of the following best describes Python as a programming language?

A) Python is a low-level, compiled language

B) Python is an interpreted, high-level language with dynamic typing

C) Python is a functional programming language only

D) Python does not support object-oriented programming

ANSWER: B

26. Which of the following code snippets would check if the string s contains only alphabetic characters?

A) s.isalpha()

B) s.isalnum()

C) s.isdigit()

D) s.isspace()

ANSWER: A

27. Which of the following is a valid way to convert an integer to a string in Python?

A) str(123)

B) toString(123)

C) string(123)

D) int(123)

ANSWER: A

28. Which of the following is a valid way to convert the string s = "hello" to a list of characters?

A) list(s)

B) s.to_list()

C) split(s)

D) s.split()

ANSWER: A

29. Which of the following is not a built-in function in Python?

A) sum

B) print

C) average

D) len

ANSWER: C

30. Which of the following is the correct way to concatenate two strings str1 and str2?

A) str1 + str2

B) str1.concat(str2)

C) str1.append(str2)

D) str1.add(str2)

ANSWER: A

31. Which of the following is the correct way to create a set in Python?

A) set = {1, 2, 3, 4}

B) set = (1, 2, 3, 4)

C) set = [1, 2, 3, 4]

D) set = set(1, 2, 3, 4)

ANSWER: A

32. Which of the following methods adds an element at the beginning of a list in Python?

A) insert(0, item)

B) append(item)

C) extend(item)

D) push(item)

ANSWER: A

33. Which of the following methods can be used to convert a string to lowercase in Python?

A) str.to_lower()

B) str.lower()

C) str.make_lower()

D) str.toLowerCase()

ANSWER: B

34. Which of the following methods is used to add a single element to a set in Python?

A) add()

B) append()

C) insert()

D) append() and insert() both

ANSWER: A

35. Which of the following methods is used to join a list of strings into a single string?

A) str.join(list)

B) list.join(str)

C) str.combine(list)

D) list.combine(str)

ANSWER: A

36. Which of the following methods returns a new list that contains all elements of the original list repeated twice?

A) lst.copy()

B) lst * 2

C) lst.append()

D) lst.extend()

ANSWER: B

37. Which of the following operations is used to find the union of two sets s1 and s2?

A) s1 + s2

B) s1 & s2

C) s1 | s2

D) s1 - s2

ANSWER: C

38. Which of the following statements is true about Python variables?

A) Variables must be declared with a specific type before use

B) Variables are case-insensitive

C) Variables are automatically assigned a data type based on the value assigned

D) Variables cannot store different types of data during execution

ANSWER: C

39. Which of the following will result in an error?

A) int("123")

B) float("12.34")

C) str(123)

D) int("12.34")

ANSWER: D

40. Which of the following would result in an infinite loop?

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

B) while False: print("Hello")

C) while True: print("Hello")

D) for i in range(1): print(i)

ANSWER: C

41. Which operator is used to reverse the Boolean value in Python?

A) or

B) not

C) and

D) None

ANSWER: B