1. What is Python?
   - a) A snake species
   - b) **A high-level programming language**
   - c) A data structure
   - d) A mathematical equation

2. Which of the following is not a Python data type?
   - a) Integer
   - b) Float
   - c) String
   - d) **Array**

3. What is the output of the following code snippet?
```python
print(5 == 5)
```
   - a) **True**
   - b) False
   - c) 5
   - d) Error

4. What does the following code print?
```python
x = 5
y = 2
print(x ** y)
```
   - a) 7
   - b) 10
   - c) **25**
   - d) 32

5. Which of the following is used for comments in Python?
   - a) //
   - b) **#**
   - c) <!-- -->
   - d) //

Intermediate Level:

6. What does the `range()` function return?
   - a) A list of numbers
   - b) **A sequence of numbers**
   - c) A random number

- d) None of the above
-

7. What is the output of the following code snippet?
```python
my_list = [1, 2, 3, 4, 5]
print(my_list[2:4])
```
- a) **[3, 4]**
- b) [2, 3, 4]
- c) [1, 2, 3]
- d) [4, 5]

8. Which of the following statements about Python's `elif` keyword is true?
- a) **It is short for "else if"**
- b) It is used for exception handling
- c) It is used for defining functions
- d) It is an alternative to the `else` keyword
-

9. What does the `zip()` function do?
- a) Combines two lists into a dictionary
- b) **Returns a list of tuples, where the i-th tuple contains the i-th element from each of the argument sequences or iterables**
- c) Returns the union of two sets
- d) Zips files together into a single archive

10. What is the output of the following code snippet?
```python
def my_function(x, y=3):
    return x * y

print(my_function(4))
```
- a) 7
- b) **12**
- c) 3
- d) 4

11. What does the 'print' function do in Python?
- a) Takes input from the user
- b) **Displays output on the screen**
- c) Performs mathematical calculations
- d) None of the above

12. Which of the following statements correctly uses the 'print' function to display text?

- a) **print("Hello, World!")**
- b) input("Hello, World!")
- c) input("Hello, World!")
- d) print(input("Hello, World!"))

13. How do you print multiple variables separated by spaces using the 'print' function?
    - a) **print(var1, var2)**
    - b) **print(var1 + " " + var2)**
    - c) print("var1 var2")
    - d) All of the above

14. Which function is used to take user input in Python?
    - a) print()
    - b) read()
    - c) **input()**
    - d) scan()

15. What does the 'input' function return in Python?
    - a) Integer
    - b) **String**
    - c) List
    - d) None

17. How do you prompt the user to enter their name using the 'input' function?
    - a) **input("Enter your name: ")**
    - b) input("Name:)
    - c) print("Enter your name: ")
    - d) print("Name: ")

18. Which of the following is true about the 'sep' parameter in the 'print' function?
    - a) **It separates the printed items with the specified character**
    - b) It appends the specified character at the end of the output
    - c) It specifies the starting point of the output
    - d) None of the above

19. How do you convert the user input obtained from the 'input' function into an integer?
    - a) int(input())
    - b) input(int)
    - c) **int(input(""))**
    - d) All of the above

20. What is the output of the following Python code snippet?
    ```python
    text = "Hello, World!"
    ```

```
print(text[2:6])
```

- a) "lo, "
- b) "ello"
- c) **"llo,"**
- d) "llo "

21. Which of the following methods can be used to convert a string to uppercase in Python?
a) toUpper()
b) **upper()**
c) capitalize()
d) casefold()

22. What does the `strip()` method do in Python?
- a) Removes all occurrences of a specified character from the beginning and end of a string.
- b) **Removes all leading and trailing whitespace from a string.**
- c) Splits a string into a list based on a specified separator.
- d) Returns the index of the first occurrence of a specified substring in a string.

23. Which of the following Python code snippets checks if a string contains another substring?
- a) `**substring in string**`
- b) `string.contains(substring)`
- c) `string.find(substring)`
- d) `string.include(substring)`

24. What will be the output of the following code?
```python
text = "Hello,World,Python"
print(text.split(","))
```

- a) **['Hello', 'World', 'Python']**
- b) ['Hello,World,Python']
- c) ['Hello', ',', 'World', ',', 'Python']
- d) **['Hello', 'World', 'Python']**

25. What does the `join()` method do in Python?
- a) **Concatenates elements of a list into a single string.**
- b) Splits a string into a list based on a specified separator.
- c) Replaces occurrences of a specified substring with another substring.
- d) Returns a string with leading whitespace removed.

26. Which method can be used to replace only a specified number of occurrences of a substring within a string?

- a) **`replace()`**
- b) `sub()`
- c) `replacenum()`
- d) `replaceall()`

27. What does the `startswith()` method do in Python?
    - a) Checks whether a string ends with a specified suffix.
    - b) **Checks whether a string starts with a specified prefix.**
    - c) Returns the index of the first occurrence of a specified substring.
    - d) Reverses the characters of a string.

28. Which of the following is the correct way to format a string using placeholders in Python?
    - a) `print("Hello, {}!".format(name))`
    - b) `print("Hello, %s!" % name)`
    - c) `print(f"Hello, {name}!")`
    - d) **All of the above.**

29. What is a variable in Python?
    - a) A reserved word that cannot be changed
    - b) **A container for storing data values**
    - c) A built-in function for mathematical calculations
    - d) A data structure for organizing code blocks

30. Which of the following is a valid variable name in Python?
    - a) 1st_variable
    - b) **my_variable**
    - c) global
    - d) import

31. What will be the output of the following code snippet?
    ```python
    x = 5
    y = "Hello"
    print(x + y)
    ```
    - a) 5Hello
    - b) Hello5
    - c) **TypeError**
    - d) 10

32. How do you declare multiple variables in one line in Python?
    - a) **var1, var2 = value1, value2**
    - b) var1 = value1, var2 = value2
    - c) var1, var2 == value1, value2

- d) var1 == value1; var2 == value2

33. What data type is a variable `x` if `x = 3.14`?
    - a) Integer
    - b) **Float**
    - c) String
    - d) Boolean

34. What is the scope of a variable in Python?
    - a) The range of values a variable can hold
    - b) The location in memory where a variable is stored
    - c) **The portion of code where a variable is accessible**
    - d) The lifetime of a variable within a program

35. Which of the following is true about global variables in Python?
    - a) They can be accessed only within the function where they are defined
    - b) **They can be accessed from any function within the same module**
    - c) They have limited visibility and can only be accessed from the main function
    - d) They are constants that cannot be modified once defined

36. What will be the output of the following code snippet?
    ```python
    x = 10
    def func():
        global x
        x = 20
    func()
    print(x)
    ```
    - a) 10
    - b) **20**
    - c) 30
    - d) NameError

37. What does the `del` statement do in Python?
    - a) Deletes the value stored in a variable
    - b) **Deletes a variable from memory**
    - c) Deletes the reference to a variable
    - d) Deletes the variable's datatype

38. What is the difference between local and global variables in Python?
    - a) Local variables are declared outside of any function, while global variables are declared within functions.

- b) Local variables are accessible from any part of the program, while global variables are only accessible within the function where they are defined.
- c) Local variables have a shorter lifespan than global variables.
- d) **Local variables are declared within functions and can only be accessed within those functions, while global variables can be accessed from anywhere in the program.**

39. What is the correct data type for representing whole numbers in Python?
    - a) **int**
    - b) float
    - c) str
    - d) bool

40. Which of the following data types is mutable in Python?
    - a) int
    - b) float
    - c) tuple
    - d) **list**

41. Which data type in Python is used to store a sequence of characters?
    - a) int
    - b) float
    - c) **str**
    - d) list

42. Which of the following data types is used to represent a collection of elements with no duplicates and unordered elements?
    - a) list
    - b) **set**
    - c) tuple
    - d) dictionary

43. What is the output of the following code?
    ```python
    x = 5
    print(type(x))
    ```
    - a) **int**
    - b) float
    - c) str
    - d) None of the above

44. What is the output of the following code?
    python

```
x = 10 / 3
print(x)
```

- a) **3.3333333333333335**
- b) 3.33
- c) 3.0
- d) 3

45. Which of the following data types in Python is used to represent a collection of key-value pairs?

- a) list
- b) set
- c) tuple
- d) **dictionary**

46. Which method is used to add an element to the end of a list in Python?

- a) **append()**
- b) extend()
- c) insert()
- d) add()

47. What is the correct way to create an empty set in Python?

- a) **set()**
- b) {}
- c) ()
- d) []

48. Which of the following is NOT a valid data type conversion in Python?

- a) int to float
- b) float to str
- c) str to int
- d) **list to dictionary**

49. Which of the following is a valid integer in Python?

- a) 3.14
- b) **42**
- c) "hello"
- d) [1, 2, 3]

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

```python
x = 5
y = 2
print(x / y)
```

- a) **2.5**
- b) 2
- c) 2.0
- d) Error

51. Which operator is used for floor division in Python?
    - a) /
    - b) **//**
    - c) %
    - d) *

52. What data type does the result of a division operation involving only integers produce?
    - a) **float**
    - b) int
    - c) str
    - d) bool

53. What function can you use to convert a string to an integer in Python?
    - a) str()
    - b) **int()**
    - c) float()
    - d) bool()

Intermediate Level:

54. What will be the result of the following expression?
    ```python
    x = 7.0 / 2
    ```
    - a) **3.5**
    - b) 3
    - c) 4.0
    - d) 4

56. Which of the following is not a valid way to represent a floating-point number in Python?
    - a) 3.14
    - b) 3.
    - c) .14
    - d) **3,14**

57. What will be the result of the following code?
    ```python
    x = 5
    y = 2
    print(x ** y)
    ```

```

- a) 25
- b) **10**
- c) 8
- d) Error

58. What is the output of the following code?
```python
x = 5
y = 2
print(x / float(y))
```
- a) **2.5**
- b) 2
- c) 2.0
- d) Error

59. Which of the following methods can be used to check if a variable is of type float?
- a) is_float()
- b) isinstance(var, float)
- c) var.type() == float
- d) **type(var) == float**

60. What is a set in Python?
- a) A data structure that stores elements in a sequential order
- b) **A data structure that stores unique elements in an unordered collection**
- c) A data structure that stores elements in a sorted manner
- d) A data structure that stores elements in key-value pairs

61. Which of the following symbols is used to create an empty set in Python?
- a) **{}**
- b) []
- c) ()
- d) //

62. What happens if you try to add a duplicate element to a set in Python?
- a) It raises an error
- b) **It silently ignores the duplicate element and continues execution**
- c) It removes the duplicate element automatically
- d) It modifies the original element with the new value

63. Which method is used to remove an element from a set in Python?
- a) **remove() (giving error if value not present)**
- b) delete()
```

- c) **discard() (no error even if value not present)**
- d) **pop() (error if set is empty)**

64. What is the output of the following code?
```python
set1 = {1, 2, 3}
set2 = {3, 4, 5}
print(set1.intersection(set2))
```
- a) {1, 2, 3}
- b) **{3}**
- c) {4, 5}
- d) {}

65. What is the difference between a set and a frozenset in Python?
- a) **Sets are mutable while frozensets are immutable**
- b) Frozensets are mutable while sets are immutable
- c) Both sets and frozensets are immutable
- d) Both sets and frozensets are mutable

66. Which method is used to combine two sets in Python?
- a) merge()
- b) **union()**
- c) combine()
- d) join()

67. What is the purpose of the `clear()` method in Python sets?
- a) **It removes all elements from the set**
- b) It sorts the elements of the set
- c) It reverses the order of elements in the set
- d) It returns a copy of the set with all elements removed

68. How can you check if a set is a subset of another set in Python?
- a) **Using the `issubset()` method**
- b) Using the `issuperset()` method
- c) Using the `subset()` function
- d) Using the `superset()` function

69. Which of the following statements about set comprehension in Python is true?
- a) Set comprehension is not supported in Python
- b) Set comprehension creates a set by iterating over elements of another iterable
- c) Set comprehension only works for numerical data
- d) **Set comprehension allows defining complex conditions for element inclusion in the set**

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

python

```
a = (1, 2, 3)
b = (4, 5, 6)
c = a + b
print(c)
```

- a)[1,2,3,4,5,6]
- b)**(1,2,3,4,5,6)**
- c)(1,2,3) (4,5,6)
- d)[(1,2,3), (4,5,6)]