

---- SyllabusBuddy ----

Looping and counting, list operations, nested lists, and object-oriented programming (OOP)
(UNIT - 4)

1. What is the output of the following code?

```
count = 0
for i in [1, 2, 3, 4]:
    count += i
print(count)
```

- a) 10
- b) 9
- c) 6
- d) 5

Answer: a

Explanation: The sum of [1, 2, 3, 4] is 10.

2. What does len([10, 20, 30]) return?

- a) 2
- b) 3
- c) 4
- d) Error

Answer: b

Explanation: The list has 3 elements.

3. Which keyword is used to iterate over a list?

- a) loop
- b) iterate
- c) for
- d) each

Answer: c

Explanation: The for keyword is used in loops.

4. What will this code output?

```
fruits = ['apple', 'banana', 'cherry']
print('banana' in fruits)
```

- a) banana
- b) True
- c) False
- d) Error

Answer: b

Explanation: 'banana' is an element of the list.

5. What is the result of this code?

```
nums = [1, 2, 3]
nums[1] = 10
print(nums)
```

- a) [1, 2, 3]
- b) [10, 2, 3]
- c) [1, 10, 3]
- d) Error

Answer: c

Explanation: The second element is updated to 10.

6. How do you delete an item from a list by value?

- a) del list(index)
- b) list.delete(value)
- c) list.remove(value)
- d) remove.list(value)

Answer: c

Explanation: remove() deletes the first matching value.

7. What will this print?

```
a = [1, 2, 3]
b = a[:]
b[0] = 0
print(a)
```

- a) [0, 2, 3]
- b) [1, 2, 3]
- c) Error
- d) None

Answer: b

Explanation: a[:] creates a clone. Changes to b don't affect a.

8. What is the output of this nested list access?

```
matrix = [[1,2], [3,4]]  
print(matrix[1][0])
```

- a) 2
- b) 3
- c) 4
- d) Error

Answer: b

Explanation: It accesses the first element of the second list.

9. Which of the following is a correct list operation?

- a) `[1, 2] + [3, 4]`
- b) `[1, 2] - [3, 4]`
- c) `[1, 2] * [3, 4]`
- d) `[1, 2] / [3, 4]`

Answer: a

Explanation: `+` concatenates lists.

10. What does `my_list = list("abc")` produce?

- a) `['abc']`
- b) `['a', 'b', 'c']`
- c) `abc`
- d) `('a', 'b', 'c')`

Answer: b

Explanation: The string is split into individual characters.

11. What is the output of the following code?

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

- a) 1 2 3
- b) 0 1 2
- c) 0 1 2 3
- d) Error

Answer: b

Explanation: `range(3)` produces 0, 1, 2.

12. Which list operation duplicates the list?

- a) list.copy()
- b) list.clone()
- c) list.duplicate()
- d) list.replicate()

Answer: a

Explanation: copy() is used to duplicate the list.

13. Which of the following is a valid way to create an empty list?

- a) []
- b) list()
- c) Both a and b
- d) None

Answer: c

Explanation: Both methods create an empty list.

14. Which method adds an element to the end of a list?

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

Answer: a

Explanation: append() adds a single item to the list.

15. What will list(range(2, 10, 2)) return?

- a) [2, 4, 6, 8, 10]
- b) [2, 4, 6, 8]
- c) [3, 5, 7, 9]
- d) [2, 3, 4, 5]

Answer: b

Explanation: It generates numbers from 2 to 8 with step 2.

16. Which of these is not a valid list method?

- a) sort()
- b) push()
- c) append()

d) insert()

Answer: b

Explanation: push() is not a valid list method in Python.

17. What does list1.extend(list2) do?

a) Adds list2 as a single element

b) Creates a nested list

c) Appends elements of list2 to list1

d) Clears list1

Answer: c

Explanation: extend() adds elements individually.

18. What does the following code print?

```
x = [1, 2]
```

```
x *= 2
```

```
print(x)
```

a) [2, 4]

b) [1, 2, 1, 2]

c) [1, 2]

d) Error

Answer: b

Explanation: The list is repeated twice.

19. How do you remove the last item from a list?

a) del list[-1]

b) list.pop()

c) list.remove(list[-1])

d) All of the above

Answer: d

Explanation: All are valid ways.

20. Which is true about nested lists?

a) They are immutable

b) They contain only strings

c) They can contain other lists

d) Not supported in Python

Answer: c

Explanation: Nested lists contain lists as elements.

21. What is the output of `print("python"[::-1])`?

- a) python
- b) nohtyp
- c) Error
- d) ['p', 'y', 't', 'h', 'o', 'n']

Answer: b

Explanation: `[::-1]` reverses the string.

22. How to compare two strings `s1` and `s2` in Python?

- a) `s1.compare(s2)`
- b) `cmp(s1, s2)`
- c) `s1 == s2`
- d) `str_eq(s1, s2)`

Answer: c

Explanation: `==` checks equality.

23. What is `s.find('a')` if `s = "banana"`?

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

Answer: d

Explanation: First occurrence of 'a' is at index 1.

24. Which method returns the length of a string?

- a) `count()`
- b) `size()`
- c) `len()`
- d) `length()`

Answer: c

Explanation: `len()` gives the number of characters.

25. What is the result of `'ab' + 'cd'`?

- a) 'abcd'
- b) 'ab cd'
- c) 'a b c d'
- d) 'acbd'

Answer: a

Explanation: Strings are concatenated using +.

26. What does while True: do?

- a) Infinite loop
- b) Loop runs once
- c) Loop never runs
- d) Syntax error

Answer: a

Explanation: Condition always true.

27. When does a while loop terminate?

- a) When False is encountered
- b) After 5 iterations
- c) When manually stopped
- d) Only on error

Answer: a

Explanation: It runs until the condition is false.

28. What is the output of this code?

```
x = 0
while x < 3:
    x += 1
print(x)
```

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

Answer: d

Explanation: x increases until x < 3 is False.

29. What is the result of this function?

```
def fact(n):  
    if n == 0: return 1  
    return n * fact(n-1)  
print(fact(3))
```

- a) 6
- b) 3
- c) 9
- d) 0

Answer: a

Explanation: $3 * 2 * 1 = 6$.

30. What does a stack diagram show in recursion?

- a) List of all variables
- b) Call history
- c) Memory usage
- d) Compiler info

Answer: b

Explanation: It shows recursive call sequence.

31. What is multiple assignment in Python?

- a) Assigning list values
- b) Assigning same value to multiple variables
- c) Assigning multiple values at once
- d) None

Answer: c

Explanation: Example: `a, b = 1, 2`.

32. What is printed by `a, b = b, a`?

- a) Swaps values
- b) Error
- c) Assigns both to None
- d) None

Answer: a

Explanation: Python allows variable swapping.

33. What is the index of the first element in a list?

- a) 0

- b) 1
- c) -1
- d) Depends on length

Answer: a

Explanation: Lists are 0-indexed.

34. What does slicing return?

`list[1:3]`

- a) Element at index 1
- b) Elements at 1 and 3
- c) Elements at 1 and 2
- d) All elements

Answer: c

Explanation: End index is excluded.

35. What will `print([1, 2] * 2)` output?

- a) `[2, 4]`
- b) `[1, 2, 1, 2]`
- c) Error
- d) `[1, 2, 2]`

Answer: b

Explanation: Repeats the list.

36. Which is used to define a class in Python?

- a) function
- b) def
- c) class
- d) obj

Answer: c

Explanation: class keyword defines a class.

37. How to create an object from a class?

- a) `obj = class()`
- b) `obj = ClassName()`
- c) `obj.create()`
- d) `object = class`

Answer: b

Explanation: Use class name followed by `()`.

38. What is self in Python?

- a) Current object
- b) Parent class
- c) Class name
- d) Function

Answer: a

Explanation: Refers to the current instance.

39. Which of the following is a constructor?

- a) init()
- b) init()
- c) start()
- d) begin()

Answer: b

Explanation: __init__() initializes an object.

40. Which library is built-in in Python?

- a) numpy
- b) math
- c) pandas
- d) matplotlib

Answer: b

Explanation: math is a standard Python library.

41. What is the output of list("123")?

- a) ['1', '2', '3']
- b) [1, 2, 3]
- c) ["123"]
- d) (1, 2, 3)

Answer: a

Explanation: Converts string into list of characters.

42. How do you access the last element of a list?

- a) list[1]
- b) list[len(list)]
- c) list[-1]
- d) list[0]

Answer: c

Explanation: Negative indices access from end.

43. What is the purpose of isinstance(obj, ClassName)?

- a) Returns class name
- b) Checks if object is of type
- c) Creates an object
- d) Destroys an object

Answer: b

Explanation: Validates object type.

44. What is the output of this class method call?

```
class A:
    def greet(self):
        return "Hi"
a = A()
print(a.greet())
```

- a) Hi
- b) Error
- c) greet
- d) None

Answer: a

Explanation: Method returns a string.

45. Which operator is used to access attributes of an object?

- a) ,
- b) :
- c) .
- d) ::

Answer: c

Explanation: The dot operator is used.

46. How can you loop over a string in Python?

- a) Only with while
- b) Only using index
- c) Using for loop
- d) Not possible

Answer: c

Explanation: Strings are iterable.

47. What is the output of `print("abc".find("b"))`?

- a) 0
- b) 1
- c) 2
- d) -1

Answer: b

Explanation: 'b' is at index 1.

48. What does `del list[1]` do?

- a) Deletes whole list
- b) Removes element at index 1
- c) Removes 1
- d) Error

Answer: b

Explanation: Deletes by index.

49. How do you create a 2D table in Python?

- a) Using nested lists
- b) Using list of integers
- c) Using dict
- d) Using tuple

Answer: a

Explanation: Example: `[[1,2],[3,4]]`.

50. What will this print?

```
list1 = [1, 2]
list2 = list1
list2.append(3)
print(list1)
```

- a) `[1, 2]`

- b) [1, 2, 3]
- c) [3]
- d) Error

Answer: b

Explanation: Both variables refer to the same list.

---- SyllabusBuddy ----

SyllabusBuddy is your ultimate hub for chapter-wise study materials, including PDFs, DOCs, and TXT files of MCQs, objectives, previous year papers, and sample papers. Get simplified, organized academic content for easy exam preparation – download all study resources by subject and chapter at SyllabusBuddy.