1. True or **False**: The length of a list is given by the length() function.
2. True or **False**: The index for the first element of a list is 1, e.g., xlist[1] is the first element of the list xlist.
3. What is the output produced by the following code?

**xlist = []**

**xlist.append(5)**

**xlist.append(10)**

**print(xlist)**

1. **[5, 10]**
2. []
3. 5, 10
4. 5 10
5. This produces an error.
6. None of the above.

4. What is the output produced by the following code? **zlist = []**

**zlist.append([3, 4])**

**print(zlist)**

1. [3, 4]
2. **[[3, 4]]**
3. 3, 4
4. 3 4
5. None of the above.

5. What is the value of xlist2 after the following statement has been executed?

**xlist2 = list(range(-3, 3))**

1. [-3, -2, -1, 0, 1, 2, 3]
2. **[-3, -2, -1, 0, 1, 2]**
3. [-2, -1, 0, 1, 2]
4. [-3, 0, 3]
5. This produces an error.

6. What is the value of xlist3 after the following statement has been executed?

**xlist3 = list(range(-3, 3, 3))**

1. [-3, 0, 3]
2. **[-3, 0]**
3. [-2, 1]
4. This produces an error.

7. What is the value of xlist4 after the following statement has been executed?

**xlist4 = list(range(-3))**

1. **[]**
2. [-3, -2, -1]
3. [-3, -2, -1, 0]
4. This produces an error.

8. What is output produced by the following?

**xlist = [2, 1, 3]**

**ylist = xlist.sort() print(xlist, ylist)** (a) [2, 1, 3] [1, 2, 3]

1. [3, 2, 1] [3, 2, 1]
2. [1, 2, 3] [2, 1, 3]
3. **[1, 2, 3] None**
4. This produces an error.

9. To what value is the variable x set by the following code?

**def multiply\_list(start, stop):**

**product = 1**

**for element in range(start,stop):**

**product = product \* element**

**return product**

**x = multiply\_list(1, 4)**

1. 24
2. **6**
3. 2
4. 1

1. Consider the following function:

**def f1(x, y):**

**print([x, y])**

True or **False:** This function returns a list consisting of the two parameters passed to the function. **Prints not returns**

1. Consider the following function:

**def f2(x, y):**

**return x, y**

True or **False**: This function returns a list consisting of the two parameters passed to the function. **Returns a tuple not a list**

1. Consider the following function:

**def f3(x, y):**

**print(x, y)**

**return [x, y]**

**True** or False: This function returns a list consisting of the two parameters passed to the function.

1. Consider the following function:

**def f4(x, y):**

**return [x, y]**

**print(x, y)**

True or **False**: This function prints a list consisting of the two parameters passed to the function.

1. Consider the following function:

**def f5(x, y):**

**return [x, y]**

**print([x, y])**

**True** or False: This function prints a list consisting of the two parameters passed to the function.

1. What output is produced by the following code?

**xlist = [3, 2, 1, 0]**

**for item in xlist:**

**print(item, end=" ")**

1. 3210
2. **3 2 1 0**
3. [3, 2, 1, 0]
4. This produces an error.
5. None of the above.

16. What output is produced by the following code?

**a = 1**

**b = 2**

**xlist = [a, b, a + b] a = 0**

**b = 0**

**print(xlist)**

1. [a, b, a b]+
2. **[1, 2, 3]**
3. [0, 0, 0]
4. This produces an error.
5. None of the above.

17. What output is produced by the following code?

**xlist = [3, 5, 7]**

**print(xlist[1] + xlist[3])**

1. 10
2. 12
3. 4
4. **This produces an error.**
5. None of the above.

18. What output is produced by the following code?

**xlist = ["aa", "bb", "cc"]**

**for i in [2, 1, 0]:**

**print(xlist[i], end=" ")**

1. aa bb cc
2. cc bb aa
3. This produces an error.
4. None of the above.

19. What does the following code do?

**for i in range(1, 10, 2):**

**print(i)**

1. **Prints all odd numbers in the range [1, 9].**
2. Prints all numbers in the range [1, 9].
3. Prints all even numbers in the range [1, 10].
4. This produces an error.

20. What is the result of evaluating the expression list(range(5))?

(a) **[0, 1, 2, 3, 4]**

1. [1, 2, 3, 4, 5]
2. [0, 1, 2, 3, 4, 5]
3. None of the above.

21. Which of the following headers is appropriate for implementing a counted loop that executes 4 times?

1. for i in 4:
2. for i in range(5):
3. **for i in range(4):**
4. for i in range(1, 4):

22. Consider the following program:

**def main():**

**num = eval(input("Enter a number: ")) for i in range(3):**

**num = num \* 2**

**print(num)**

**main()**

Suppose the input to this program is 2, what is the output?

1. **2**

**4**

**8**

1. **4**

**8**

1. **4**

**8**

**16**

(d) **16**

23. The following fragment of code is in a program. What output does it produce?

**fact = 1**

**for factor in range(4):**

**fact = fact \* factor**

**print(fact)**

1. 120
2. 24
3. 6
4. **0**

24. What is the output from the following program if the user enters 5.

**def main():**

**n = eval(input("Enter an integer: ")) ans = 0 for x in range(1, n):**

**ans = ans + x**

**print(ans)**

**main()**

1. 120
2. **10**
3. 15
4. None of the above.

25. What is the output from the following code?

**s = [’s’, ’c’, ’o’, ’r’, ’e’]**

**for i in range(len(s) - 1, -1, 1):**

**print(s[i], end = " ")**

1. s c o r e
2. e r o c s
3. 4 3 2 1 0
4. **None of the above.**

26. The following fragment of code is in a program. What output does it produce?

**s = [’s’, ’c’, ’o’, ’r’, ’e’]**

**sum = 0**

**for i in range(len(s)):**

**sum = sum + s[i]**

**print(sum)**

1. score
2. erocs
3. scor
4. 01234
5. **None of the above.**

27. The following fragment of code is in a program. What output does it produce?

**s = [’s’, ’c’, ’o’, ’r’, ’e’]**

**sum = ""**

**for i in range(len(s)):**

**sum = s[i] + sum**

**print(sum)**

1. score
2. erocs
3. scor
4. 01234
5. **None of the above.**

**Ord & chr -> ascii**

28. What is the value returned by the following function when it is called with an argument of 3 (i.e., summer1(3))?

**def summer1(n):**

**sum = 0 for i in range(1, n + 1):**

**sum = sum + i return sum**

1. 3
2. **1**
3. 6
4. 0

29. What is the value returned by the following function when it is called with an argument of 4 (i.e., summer2(4))?

**def summer2(n):**

**sum = 0**

**for i in range(n):**

**sum = sum + i**

**return sum**

1. 3
2. 1
3. **6**
4. 0

30. Consider the following function:

**def foo():**

**xlist = [] for i in range(4):**

**x = input("Enter a number: ") xlist.append(x)**

**return xlist**

Which of the following best describes what this function does?

1. It returns a list of four numbers that the user provides.
2. **It returns a list of four strings that the user provides.**
3. It returns a list of three numbers that the user provides.
4. It produces an error.
5. What output is produced by the following code?

**xlist = [1, [1, 2], [1, 2, 3]]**

**print(xlist[1])**

[1, 2]

1. What output is produced by the following code?

**xlist = [1, [1, 2], [1, 2, 3]]**

**print(xlist[1][1])**

2

1. What output is produced by the following code?

**xlist = [1, [1, 2], [1, 2, 3]]**

**print(xlist[1] + [1])**

[1, 2, 1]

1. What output is produced by the following code?

**def sum\_part(xlist, n):**

**sum = 0 for x in xlist[n]:**

**sum = sum + x**

**return sum**

**ylist = [[1, 2], [3, 4], [5, 6], [7, 8]]**

**x = sum\_part(ylist, 2) print(x)**

**Aliasing -> two lists to same address**

**11**

1. Assume xlist is a list of lists where the inner lists have two elements. The second element of these inner lists is a numeric value. Which of the following will sum the values of the second element of the nested lists and store the result in sum?

* 1. **sum = 0 for item in xlist:**

**sum = sum + item[1]**

* 1. **sum = 0**

**for one, two in xlist:**

**sum = sum + two**

* 1. **sum = 0**

**for i in range(len(xlist)):**

**sum = sum + xlist[i][1]**

* 1. (d) All of the above.

1. What output is produced by the following code?

**for i in range(3): for j in range(3):**

**print(i \* j, end="")**

1. 123246369
2. 0000012302460369
3. 000012024
4. None of the above.

7. What output is produced by the following code? **s = "abc" for i in range(1, len(s) + 1): sub = "" for j in range(i): sub = s[j] + sub**

**print(sub)**

1. **a**

**ba**

**cba**

1. **a**

**ab**

**abc**

1. **a**

**ab**

1. This code produces an error.

8. What output is produced by the following code? **s = "grasshopper" for i in range(1, len(s), 2):**

**print(s[i], end="")**

1. gasopr
2. gr
3. rshpe
4. rshper

9. What output is produced by the following code?

**x = [7]**

**y = x**

**x[0] = x[0] + 3**

**y[0] = y[0] - 5**

**print(x, y)**

[5] [5]

10. What output is produced by the following code?

**x = [7]**

**y = x**

**x = [8] print(x, y)**

[8] [7]

11. What output is produced by the following code?

**x = [1, 2, 3, 4]**

**y = x**

**y[2] = 0**

**z = x[1 : ] x[1] = 9 print(x, y, z)**

[1, 9, 0, 4] [1, 9, 0, 4] [2, 0, 4]

12. What output is produced by the following code? **s = "row"**

**for i in range(len(s)):**

**print(s[ : i])**

1. **r**

**ro**

1. **r**

**ro**

**row**

1. **ro row**
2. None of the above.

13. What output is produced by the following code?

**s = "stab" for i in range(len(s)):**

**print(s[i : 0 : -1])**

1. **s ts ats bats**
2. **t at**

**bat**

1. **s st sta**
2. None of the above.

14. What output is produced by the following code?

**s = "stab" for i in range(len(s)):**

**print(s[i : -5 : -1])**

1. **s**

**ts ats bats**

1. **t at bat**
2. **s st sta**
3. None of the above.

15. What output is produced by the following code?

**s = "stab" for i in range(len(s)):**

**print(s[0 : i : 1])**

(a) **s ts ats bats** (b) **t at bat**

1. **s st sta**
2. None of the above.