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)

(a) [5, 10]
(b) []
(c) 5, 10
(d) 5 10
(e) This produces an error.
(f) None of the above.

4. What is the output produced by the following code?

zlist = []
zlist.append([3, 4])
print(zlist)

(a) [3, 4]
(b) [[3, 4]]
(c) 3, 4
(d) 3 4
(e) None of the above.

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

xlist2 = list(range(-3, 3))
(a) [-3, -2, -1, 0, 1, 2, 3]
(b) [-3, -2, -1, 0, 1, 2]
(c) [-2, -1, 0, 1, 2]
(d) [-3, 0, 3]
(e) This produces an error.

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

xlist3 = list(range(-3, 3, 3))
(a) [-3, 0, 3]
(b) [-3, 0]
(c) [-2, 1]
(d) This produces an error.

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

xlist4 = list(range(-3))

(a) []
(b) [-3, -2, -1]
(c) [-3, -2, -1, 0]
(d) 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]
(b) [3, 2, 1] [3, 2, 1]
(c) [1, 2, 3] [2, 1, 3]
(d) [1, 2, 3] None
(e) 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)
```

(a) 24
(b) 6
(c) 2
(d) 1

10. 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.

11. 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.

12. 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.

13. 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.

14. Consider the following function:

```python
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.

15. What output is produced by the following code?

```python
xlist = [3, 2, 1, 0]
for item in xlist:
        print(item, end=" ")
```

(a) 3210
(b) 3 2 1 0
(c) [3, 2, 1, 0]
(d) This produces an error.
(e) None of the above.

16. What output is produced by the following code?

```python
a = 1
b = 2
xlist = [a, b, a + b]
a = 0
b = 0
print(xlist)
```

(a) [a, b, a b]+
(b) [1, 2, 3]
(c) [0, 0, 0]
(d) This produces an error.
(e) None of the above.

17. What output is produced by the following code?

```python
xlist = [3, 5, 7]
print(xlist[1] + xlist[3])
```

(a) 10
(b) 12
(c) 4
(d) This produces an error.
(e) None of the above.

18. What output is produced by the following code?

```python
xlist = ["aa", "bb", "cc"]
for i in [2, 1, 0]:
        print(xlist[i], end=" ")
```

(a) aa bb cc
(b) cc bb aa
(c) This produces an error.
(d) None of the above.

19. What does the following code do?
```
for i in range(1, 10, 2):
        print(i)
```

(a) Prints all odd numbers in the range [1, 9].
(b) Prints all numbers in the range [1, 9].
(c) Prints all even numbers in the range [1, 10].
(d) This produces an error.

20. What is the result of evaluating the expression list(range(5))?
(a) [0, 1, 2, 3, 4]
(b) [1, 2, 3, 4, 5]
(c) [0, 1, 2, 3, 4, 5]
(d) None of the above.

21. Which of the following headers is appropriate for implementing a counted loop that executes 4 times?
(a) for i in 4:
(b) for i in range(5):
(c) for i in range(4):
(d) 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?
(a)   2
        4
        8
(b)   4
        8
(c)   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)
```

(a) 120
(b) 24
(c) 6
(d) 0

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

```python
def main():
        n = eval(input("Enter an integer: "))
        ans = 0
        for x in range(1, n):
                ans = ans + x
        print(ans)
main()
```

(a) 120
(b) 10
(c) 15
(d) None of the above.

25. What is the output from the following code?

```python
s = ['s', 'c', 'o', 'r', 'e']
for i in range(len(s) - 1, -1, -1):
        print(s[i], end = " ")
```

(a) s c o r e
(b) e r o c s
(c) 4 3 2 1 0
(d) None of the above.

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

```python
s = ['s', 'c', 'o', 'r', 'e']
sum = 0
for i in range(len(s)):
        sum = sum + s[i]
print(sum)
```

(a) score
(b) erocs
(c) scor
(d) 01234
(e) None of the above.

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

```python
s = ['s', 'c', 'o', 'r', 'e']
sum = ""
for i in range(len(s)):
        sum = s[i] + sum
print(sum)
```

(a) score
(b) erocs
(c) scor
(d) 01234
(e) None of the above.

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

```python
def summer1(n):
    sum = 0
    for i in range(1, n + 1):
        sum = sum + i
        return sum
```

(a) 3
(b) 1
(c) 6
(d) 0

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

```python
def summer2(n):
    sum = 0
    for i in range(n):
        sum = sum + i
    return sum
```

(a) 3
(b) 1
(c) 6
(d) 0

30. Consider the following function:

```python
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?
(a) It returns a list of four numbers that the user provides.
(b) It returns a list of four strings that the user provides.
(c) It returns a list of three numbers that the user provides.
(d) It produces an error.