Chapter 2

Multiple Choice (47) WARNING: CORRECT ANSWERS ARE IN THE SAME POSITION AND TAGGED WITH **. YOU SHOULD RANDOMIZE THE LOCATION OF THE CORRECT ANSWERS IN YOUR EXAM.

1. In programming terminology, numbers are called numeric _____.
   a. literals **
   b. expressions
   c. operations
   d. all of the above
   e. none of the above

2. A combination of numbers, arithmetic operators, and parentheses that can be evaluated is called a numeric _____.
   a. expression **
   b. operations
   c. literal
   d. all of the above
   e. none of the above

3. The names given to values stored in memory in Python are called _____.
   a. variables **
   b. quantities
   c. statements
   d. literals

4. A statement of the form *variableName* = *numericExpression* is called a(n) _____.
   a. assignment statement **
   b. arithmetic statement
   c. expression
   d. mathematical operation

5. In Python, variable names may begin with _____.
   a. a letter
   b. an underscore
   c. both a & b **
   d. none of the above

6. In Python, variable names may consist of _____.
   a. letters
   b. digits

c. underscores
d. all of the above **
e. none of the above

7. If the value of n is 3.14159, the function round(n) will return _____.
   a. 3 **
   b. 3.1
   c. a syntax error
   d. a logic error

8. Integer division is accomplished using the _____ operator.
   a. // **
   b. %
   c. /
   d. /=

9. The remainder of an integer division is accomplished using the _____ operator.
   a. % **
   b. //
   c. mod
   d. rem

10. The statement a /= 5 is an example of a(n) _____.
    a. augmented assignment **
    b. syntax error
    c. logic error
    d. integer division

11. In the following numeric expression, what is evaluated first?
    4 * a + 7 / (x – y) + (n ** 3)
    a. (x – y) **
    b. (n ** 3)
    c. 4 * a
    d. a + 7

12. Grammatical and punctuation errors are called _____.
    a. syntax errors **
    b. logic errors
    c. runtime errors
    d. bugs

13. A syntax error is caught

a. by the interpreter **
b. during runtime when the program crashes
c. during runtime when an unexpected result is given
d. all of the above

14. An example of a runtime error is _____.
    a. a misspelled function name
    b. an undeclared variable
    c. division by zero
    d. all of the above **

15. When Python removes an orphaned object from memory, it is called _____.
    a. garbage collection **
    b. memory sweeping
    c. variable abandoning
    d. redirection

16. What will the following line of Python display?

    ```
    print (round(22.5))
    ```

    a. 22 **
    b. 23
    c. 22.5
    d. this is a logic error

17. Which variable name is invalid?
    a. X-ray **
    b. XRaY
    c. X_R_A_Y
    d. xray256

18. In Python, string literals are surrounded by
    a. single quotes
    b. double quotes
    c. either a or b **
    d. none of the above

19. A sequence of consecutive characters from a string is called a(n) _____.
    a. slice **
    b. run
    c. group
    d. cut

20. In the string literal “Life, the universe and everything.” the substring “verse” begins at position _____ and ends at position_____.
    a. 13, 17 **
    b. 12, 17
    c. 13, 18
    d. 12, 18

21. When referencing a substring such as str1[m:n] if m ≥ n then the value will be _____.
    a. the empty string **
    b. the character at index m
    c. the character at index n
    d. a Traceback error message IndexError will occur

22. Given str1 = “Life, the universe and everything.” what does str1.find(“ve”) return?
    a. 13 **
    b. 24
    c. 14
    d. -1

23. Given str1 = “Life, the universe and everything.” what does str1.rfind(“ve”) return?
    a. 24 **
    b. 25
    c. 13
    d. -1

24. Given str1 = “Life, the universe and everything.” what does str1.rfind(“rev”) return?
    a. -1 **
    b. 26
    c. 15
    d. 0

25. Combining two strings to form a new string is called _____.
    a. concatenation **
    b. joining
    c. stringing
    d. slicing

26. What function prompts a user to enter data?
    a. input **
    b. enter
    c. prompt

d. getInput

27. Given the Python statement

```
number = int(input("Enter a whole number: "))
```

what will be the output if the user enters 17.9?

a. a Traceback error message **
b. 17
c. 18
d. 17.1

28. Which function converts a number to its string representation?

a. str **
b. toString
c. convertToString
d. sConvert

29. Comments are useful for

a. specifying the intent of the program **
b. specifying how the interpreter should handle non-standard Python statements
c. specifying which Python libraries the interpreter should use
d. making a bunch of meaningless remarks that confuse programmers

30. In Python, you create a comment with the character(s) _____.

a. #
b. ##
c. //
d. a. or b. **

31. A good reason to include documentation in your program is _____.

a. to make your program easier for other people to understand
b. to make your program easier for you to understand when you come back to it at a later point in time
c. to make it easier to read long programs
d. all of the above **

32. A long statement can be split across multiple lines by ending each line, except the last, with the character(s) _____.

a. \ **
b. /
c. \\
d. //

33. For readability purposes, you should not chain _____ methods together.
    a. more than three **
    b. more than two
    c. less than three
    d. any

34. _____ sequences are short sequences that are placed in strings to instruct the cursor to permits special characters to be printed.
    a. escape **
    b. special
    c. expandable
    d. cursor

35. The escape sequence for the newline character is _____.
    a. \n **
    b. \nl
    c. \t
    d. \cr

36. What happens when a justification method is used to display string output but the string is longer than the allocated width?
    a. The justification method is ignored. **
    b. The string is left justified.
    c. The string is right justified.
    d. A Throwback error is produced.

37. Which method removes all ending spaces and escape sequences in a string?
    a. rstrip **
    b. strip
    c. remove
    d. clean

38. In Python, the term _____ refers to any instance of a data type.
    a. object **
    b. type
    c. list
    d. entity

39. A _____ is a mutable ordered sequence of Python objects.
    a. list **
    b. tuple
    c. both a & b

d. none of the above

40. After the *del* function or *remove* method are executed on a list, the items following the eliminated item are _____.
    a. moved one position left in the list **
    b. moved one position right in the list
    c. do not change position in the list
    d. are also removed from the list

41. After the *insert* method is executed, items in the list having an index greater than or equal to the stated index are _____.
    a. moved one position to the right in the list **
    b. moved one position to the left in the list
    c. do not change position in the list
    d. none of the above

42. In the split method, if no separator is specified, the default is _____.
    a. any whitespace character **
    b. a period (.)
    c. a comma (,)
    d. a number sign (#)

43. Which method turns a single string into a list of substrings?
    a. split **
    b. slice
    c. join
    d. splice

44. Which method converts a list of strings into a string value consisting of the elements of the list concatenated together?
    a. join **
    b. slice
    c. splice
    d. split

45. Given the Python statement

        value = (42, “universe”, “everything)

    which statement is illegal in Python?
    a. value.append(35)
    b. value.extend([5, 7])
    c. value.insert(1, “hitchhiker”)

d. all of the above **

46. Which one of the following Python objects can be changed in place?
    a. list **
    b. number
    c. string
    d. tuple

47. Objects that cannot be changed in place are called _____.
    a. immutable **
    b. mutable
    c. static
    d. unchangeable

True/False (28)

1. The result of a division is always a float.

Answer: true

2. The result of a division is an int if the quotient evaluates to a whole number.

Answer: false

3. The result of a multiplication is a float if either of the numbers is a float.

Answer: true

4. In a numeric expression, the operations inside parentheses are calculated last and from left to right if more than one pair of parentheses is present.

Answer: false

5. Numeric expressions may not contain variables.

Answer: false

6. An assignment statement evaluates the expression on the left side of the = and then assigns its value to the variable on the right.

Answer: false

7. A variable is created in memory the first time it appears on the left side of an assignment statement.

Answer: true

8. A variable must be created with assignment statement before it can be used in an expression.

Answer: true

9. Python is case-sensitive.

Answer: true

10. Reserved words cannot be used as variable names.

Answer: true

11. Function names are not case-sensitive.

Answer: false

12. Logic errors are the easiest type of error to locate.

Answer: false

13. When writing a string literal, opening and closing quotation marks must be the same type.

Answer: true

14. Variables cannot be assigned string values, only numeric values.

Answer: false

15. The first character of a string has index 1.

Answer: false

16. Chained methods are executed from right to left.

Answer: false

17. A string cannot be concatenated with a number.

Answer: true

18. Python does not allow for out of bounds indexing for individual characters of a string.

Answer: true

19. Python does not allow for out of bounds indexing for slices.

Answer: false

20. The backslash (\) is not considered to be a character.

Answer: true

21. When the *format* method is used to format a string, right-justify is the default justification.

Answer: false

22. In Python, a list may contain objects of any type but they must all be of the same type.

Answer: false

23. Values used in a Python program that reside in memory are lost when the program terminates.

Answer: true

24. Strings in a text file may be formatted with bold, italics, and color.

Answer: false

25. Tuples cannot be modified in place.

Answer: true

26. Tuples cannot be sliced.

Answer: false

27. Lists are mutable.

Answer: true

28. In general, tuples are more efficient than lists.

Answer: true

Short Answer (14)

1. What are the two types of numbers used in Python?

Answer: int and float

2. What is the output of the following Python statement?
print (8 / 3, 4 * 7, 9 + 13, 2 ** 5, 6 * (3 + 2))

Answer: 2 28 22 32 30

3. Write a Python statement that creates a variable called size and assigns the value 77 to it.

Answer: size = 77

4. What will be the output of the following Python program?

```
x = 5
y = 7
print (abs(x – y) – 10)
print (int(x ** 2) + 1.4)
print(round(y + 3.14159, 2))
```

Answer: -8 26.4 10.14

5. Create a variable called speed and assign the value 50 to it. In a second statement, use an augmented assignment to add 15 to speed.

Answer:
```
speed = 50
speed += 15
```

6. What is the output of the following Python program?

```
a = 3
b = 7
c = 11
d = 17
a += b
b *= c
c **= 2
d /= a
print (a, b, c, round(d))
```

Answer: 10 77 121 2

7. What is the output of the following Python program?

```
a = 31
b = 7
print (a // b, a % b)
```

Answer: 4 3

8. Write a Python program to convert 250 minutes to 4 hours and 10 minutes and prints the hours and minutes.

Answer:
```
totalMinutes = 250
hours = totalMinutes // 60
minutes = totalMinutes % 60
print (hours, minutes)
```

9. What is the output of the following Python program?

```
str1 = “it is what it is”
print(str1.find(“is”), str1.rfind(“it”), str1[-9:-7])
```

Answer: 3 14 ha

10. What is the output of the following Python program?

```
str1 = “it is what it is”
print(str1[-9:])
```

Answer: hat it is

11. What is the output of the following Python program?

```
str1 = “it is what it is”
print(str1[11:])
```

Answer: it is

12. Write a Python statement to prompt a user with “Enter a positive number:” and assigns the input to a variable called *number*.

Answer: eval(number = input(“Enter a positive number:”))

13. What is the output of the following Python program?

```
print(“never give up”[-12:4])
```

Answer: eve

14. Write a single Python statement that creates three variables, length, width, and height, and assigns the values 10, 14 and 5 respectively, to them.

Answer: length, width, height = 10, 14, 5