

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  $m \geq n$  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
```