

CHAPTER 2 TEST BANK QUESTIONS

Section 2.1 Literals

True/False Questions

1. True or **False**? In Python, a comma can be used in numerical literal values greater than 999. That is, one thousand can be represented as either 1,000 or 1000 within a Python program.
2. **True** or False? In Python, a positive sign may be placed in front of positive numeric values.
3. **True** or False? Floating-point values have both a limited range and a limited precision.
4. **True** or False? Since any floating-point representation contains only a finite number of digits, what is stored for many floating-point values is only an approximation of the true value.
5. True or **False**? Arithmetic overflow can result from the division of two floating-point values.
6. True or **False**? The format function is only for use with numeric values.
7. **True** or False? There is no practical limit to the size of an integer in Python.
8. **True** or False? You cannot rely on the result of floating-point calculations to be mathematically precise.
9. **True** or False? In Python, string literals may contain quotes as part of its value.
10. True or **False**? The character encoding of the character '2' in Python is 00000010.
11. True or **False**? An escape sequence in Python is a sequence of characters beginning with '\n'.
12. True or **False**? In Python, an empty string may be represented with a pair of matching quotes containing only a single space character.
13. **True** or False? Program lines may be joined by use of the backslash character.

Multiple Choice Questions

14. In Python, the resulting value from a numeric calculation resulting in arithmetic overflow is
 - (a) 0.0
 - (b) inf**
 - (c) 9999999999999999
 - (d) -1

15. In Python, the resulting value from a numeric calculation resulting in arithmetic underflow is

- (a) **0.0**
- (b) inf
- (c) 9999999999999999
- (d) -1

16. In Python, string literals may contain

- (a) letters
- (b) digits
- (c) blanks
- (d) special Characters
- (e) **all of the above**

17. In Python, an empty string is denoted by

- (a) a pair of single quotes containing one blank space
- (b) a pair of double quotes containing one blank space
- (c) **a pair of matching single or double quotes with no space between them**
- (e) all of the Above

18. In Python, a string literal can contain

- (a) single quotes, when the string value is delimited by matching double quotes
- (b) double quotes, when the string value is delimited by matching single quotes
- (c) no quotes other than the quotes delimiting the string value
- (d) **both (a) and (b)**

19. The number of characters that can be defined in the Unicode character encoding scheme is

- (a) **over 4 billion characters**
- (b) over 4 million characters
- (c) about 100,000 characters
- (d) about 1,000 characters

20. What is displayed by the following?

```
print(format( '-',  '->8 '), 'Hello ')
```

- (a) Hello ---
- (b) --- Hello
- (c) **----- Hello**

21. A backslash (\) at the end of a line of a Python program is used to

- (a) **cause the line and the following line to be considered one program line**
- (b) cause Python to indent the following line appropriately
- (c) allow for an open quoted string to be continued on the next line

22. Indicate what is displayed by the following print statement, for n = 8.096.

```
print('n = ', format(n, '.1f'))
```

- (a) 8.0
- (b) 8.09
- (c) **8.1**
- (d) 8.096

Matching

Match the values with their respective data types

- (a) 12 **_c_** String
- (b) 12.45 **_a_** Integer
- (c) 'Hello' **_b_** Float

Fill-in-the-Blank Questions

23. The _____ and _____ characters are used in format specifiers in Python to left or right justify a string in a specified field width.

ANSWER: <, >

Open Response Questions

24. Indicate what is displayed by the following.

```
tax = .08
print('Your cost: $', format((1 + tax) * 12.99, '.2f'))
```

ANSWER: Your cost \$ 14.03

25. Indicate the purpose of the backslash character (\) in the following.

```
numsecs_1900_dob 5 ((year_birth 2 1900) * avg_numsecs_year) 1 \
((month_birth 2 1) * avg_numsecs_month) 1 \
(day_birth * numsecs_day)
```

ANSWER: Used for line continuation in Python

Section 2.2 Variables and Identifiers

True/False Questions

26. **True** or False? A variable in Python is an identifier that is assigned a value.
27. True or **False**? When assigning a variable a value, the variable name is placed on the right side of the assignment operator.
28. **True** or False? The following is a valid assignment statement for variable n.

```
n = n + 1
```

29. True or **False**? An identifier in Python is a sequence of one or more characters which must begin with a letter or a digit.
30. **True** or False? Identifiers in Python may not contain blank characters.

31. **True** or False? The `id` function produces a unique number identifying a specific value (object) in memory.
32. **True** or False? All input is returned by the `input` function as a string type.
33. **True** or False? Python is case sensitive, so a variable *Line* is different from a variable named *line*.

Multiple Choice Questions

34. What is value of variable `number` after the code has been executed?

```
number = 10
number = number + 1
```

- (a) 1
(b) **11**
(c) 10
(d) number1

35. What value is assigned to variable `n` by the following input statement

```
n = int(input('Enter your age: '))
```

- (a) a numeric integer value
(b) **a string value**

36. For the following input statement in which the user enters as input 35, what is displayed by the following

```
age = input('Enter your age: ')
print("You are", age//10, "decades old")
```

- (a) You are 3 decades old
(b) You are 3.5 decades old
(c) **TypeError: unsupported operand type(s) for //: 'str' and 'int'**

37. Assume that variables `k` and `num` have both been initialized to 10, which of the following is true?

- (a) `id(k)`, `id(num)` and `id(10)` will each give a different result
(b) **`id(k)`, `id(num)` and `id(10)` will all give the same result**
(c) `id(k)` and `id(num)` will be the same because they are variables, but not `id(10)` because it is an immutable value
(d) It depends on the order `k` and `num` were initialized

38. Which of the following is not a valid variable identifier?

- (a) **88Keys**
(b) `num_credits`
(c) `HeSaidSheSaid`
(d) `Y2K`

Fill-in-the-Blank Questions

39. The _____ operator is used to assign a value to variable.

ANSWER: assignment

40. An _____ is a sequence of one or more characters that must not begin with a digit.

ANSWER: identifier

41. An identifier that already has a predefined meaning in Python, and therefore cannot be used as a variable, is known as a _____.

ANSWER: keyword

Open Response Questions

42. Give a Python statement that assigns variable num to the integer value one thousand, two hundred and twenty-four.

ANSWER: `x = 1224`

43. Assuming the integer variable num has already been assigned a value, give a Python statement incrementing num by 5.

ANSWER: `num = num + 5`

Section 2.3 Operators

True/False Questions

44. **True** or False? An operator is a symbol that represents a particular operation that may be performed on its operands.

45. **True** or False? The – symbol is used as both a unary and a binary operator in Python.

46. **True** or False? A keyword is a predefined identifier in Python.

47. **True** or False? Unary operators are applied to a single operand.

48. **True** or False? The / symbol is an example of a binary operator.

49. **True** or False? Truncated division, denoted by //, truncates the result of a division operation as either an integer or floating-point value, based on the types of operands it is applied to.

Multiple Choice Questions

50. Which of the following contain the correct arithmetic operators in Python?

- (a) `+`, `-`, `*`, `/`, `//`, `**`
- (b) `+`, `-`, `*`, `/`, `div`, `%`
- (c) `+`, `-`, `*`, `/`, `//`, `%`, `**`

Fill-in-the-Blank Questions

51. A numeric literal may be an _____ or _____ value.

ANSWER: integer, floating-point

52. Numeric literals consist of only the digits 0-9, and optional _____ and _____.

ANSWER: sign, decimal point

53. A calculated result too small to be represented is referred to as _____.

ANSWER: arithmetic underflow

54. The built-in _____ function of Python can be used to control the display of both numeric and string values.

ANSWER: format

55. The default character encoding scheme of Python is _____.

ANSWER: UTF-8 (Unicode)

56. Truncating division performed on integer operands is referred to as _____.

ANSWER: integer division

Open Response Questions

57. Give the character encoding of the letter 'D' in Python.

ANSWER: 010000100 (132)

Section 2.4 Expressions and Data Types

True/False Questions

58. True or **False**? Subexpressions may not contain subexpressions of their own.

59. **True** or False? The operator precedence of a given programming language does not have to necessarily be the same as in mathematics.

60. **True** or False? Like most programming languages, Python uses static typing when determining a variable's data type.

Multiple Choice Questions

61. Which one of the following is not an expression?

- (a) $4 + (3 * k)$
- (b) 4
- (c) $3 * k$
- (d) ***

62. The expression $4 + 3$ is in

- (a) prefix Notation
- (b) infix Notation**
- (c) postfix Notation

63. Based on its rules of operator precedence, Python would evaluate the expression below to

$4 + 2 * 5 + 3 ** 2$

- (a) 23**
- (b) 39
- (c) 29

64. Values can be converted from one data type to another by

- (a) coercion
- (b) type conversion
- (c) type titration
- (d) both A and B**

65. The following expression is an example of

`(float) 2 + 4.5`

- (a) type Coercion
- (b) type Titration
- (c) type Conversion**
- (d) type Concentration

Fill-in-the-Blank Questions

66. Python built-in functions _____ and _____ can be used to convert a string type to a numeric type.

ANSWERS: `int()` and `float()`

Open Response Questions

67. Give two expressions in Python, one using the minus symbol (–) as a unary operator, and one using it as a binary operator.

ANSWERS (example): `-x + 10` `x - 10`

68. Evaluate the following mathematical expressions as Python would evaluate them.

ANSWERS		
<code>23 % 5</code>	_____	3
<code>24 % 3</code>	_____	0
<code>7 // 5</code>	_____	1
<code>7 / 5</code>	_____	1.4
<code>2 ** 3</code>	_____	8

69. Give a Python statement using type conversion to convert the floating value of variable `x = 1.24` to an integer value.

ANSWER: `int(x)`