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Section 1.2 What is a Computer?

1.1 _____ is the physical aspect of the computer that can be seen.

- A. Hardware
- B. Software
- C. Operating system
- D. Application program

1.2 _____ is the brain of a computer.

- A. Hardware
- B. CPU
- C. Memory
- D. Disk

1.3 The speed of the CPU may be measured in _____.

- A. megabytes
- B. gigabytes
- C. megahertz
- D. gigahertz

1.4 Why do computers use zeros and ones?

- A. because combinations of zeros and ones can represent any numbers and characters.
- B. because digital devices have two stable states and it is natural to use one state for 0 and the other for 1.
- C. because binary numbers are simplest.
- D. because binary numbers are the bases upon which all other number systems are built.

1.5 One byte has _____ bits.

- A. 4
- B. 8
- C. 12
- D. 16

1.6 One gigabyte is approximately _____ bytes.

- A. 1 million
- B. 10 million
- C. 1 billion
- D. 1 trillion

1.7 A computer's _____ is volatile; that is, any information stored in it is lost when the system's power is turned off.

- A. floppy disk
- B. hard disk
- C. flash stick
- D. CD-ROM
- E. memory

1.8 Which of the following are storage devices?

- A. floppy disk
- B. hard disk
- C. flash stick
- D. CD-ROM

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1.9 _____ is a device to connect a computer to a local area network (LAN).

- A. Regular modem
- B. DSL
- C. Cable modem
- D. NIC

Section 1.3 Programs

1.10 _____ are instructions to the computer.

- A. Hardware
- B. Software
- C. Programs
- D. Keyboards

1.11 Computer can execute the code in _____.

- A. machine language
- B. assembly language
- C. high-level language
- D. none of the above

1.12 _____ translates high-level language program into machine language program.

- A. An assembler
- B. A compiler
- C. CPU
- D. The operating system

Section 1.4 Operating Systems

1.13 _____ is an operating system.

- A. Java
- B. C++
- C. Windows XP
- D. Visual Basic
- E. Python

1.14 _____ is a program that runs on a computer to manage and control a computer's activities.

- A. Operating system
- B. Python
- C. Modem
- D. Interpreter
- E. Compiler

Section 1.5 History of Python

1.15 Python was created by _____.

- A. James Gosling
- B. Bill Gates
- C. Steve Jobs
- D. Guido van Rossum
- E. Google

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1.16 Which of the following statements is true?

- A. Python 3 is a newer version, but it is backward compatible with Python 2.
- B. Python 3 is a newer version, but it is not backward compatible with Python 2.
- C. A Python 2 program can always run on a Python 3 interpreter.
- D. A Python 3 program can always run on a Python 2 interpreter.

1.17 _____ is an object-oriented programming language.

- A. Java
- B. C++
- C. C
- D. C#
- E. Python

1.18 _____ is interpreted.

- A. Python
- B. C++
- C. C
- D. Ada
- E. Pascal

Section 1.6 Getting Started with Python

1.19 To start Python from the command prompt, use the command _____.

- A. execute python
- B. run python
- C. python
- D. go python

1.20 To run python script file named t.py, use the command _____.

- A. execute python t.py
- B. run python t.py
- C. python t.py
- D. go python t.py

1.21 Python syntax is case-sensitive.

- A. True
- B. False

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1.22 Which of the following code is correct?

A.

```
print("Programming is fun")  
    print("Python is fun")
```

B.

```
print("Programming is fun")  
print("Python is fun")
```

C.

```
print("Programming is fun)  
print("Python is fun")
```

D.

```
    print("Programming is fun)  
print("Python is fun")
```

A. A

B. B

C. C

D. D

Section 1.7 Programming Style and Documentation

1.23 A Python line comment begins with _____.

A. //

B. /*

C. #

D. \$\$

1.24 A Python paragraph comment uses the style _____.

A. // comments //

B. /* comments */

C. ''' comments '''

D. /# comments #/

Section 1.8 Programming Errors

1.25 A _____ error does not cause the program to abort, but produces incorrect results.

A. syntax

B. runtime

C. logic

1.26 In Python, a syntax error is detected by the _____ at _____.

A. compiler/at compile time

B. interpreter/at runtime

C. compiler/at runtime

D. interpreter/at compile time

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1.27 Which of the following code is correct?

I:

```
print("Programming is fun")
  print("Python")
print("Computer Science")
```

II:

```
print("Programming is fun")
  print("Python")
  print("Computer Science")
```

III:

```
  print("Programming is fun")
print("Python")
print("Computer Science")
```

IV:

```
print("Programming is fun")
print("Python")
print("Computer Science")
```

- A. I
- B. II
- C. III
- D. IV

Section 1.9 Getting Started with Graphics Programming

1.28 To show the current location and direction of the turtle object, use _____.

- A. turtle.show()
- B. turtle.showLocation()
- C. turtle.showDirection()
- D. turtle.showturtle()
- E. turtle.showTurtle()

1.29 To move the turtle to a point at (4, 5), use _____.

- A. turtle.move(4, 5)
- B. turtle.moveTo(4, 5)
- C. turtle.moveto(4, 5)
- D. turtle.go(4, 5)
- E. turtle.goto(4, 5)

1.30 To draw a circle with radius 50, use _____.

- A. turtle.circle(50)
- B. turtle.circle(100)
- C. turtle.drawcircle(50)
- D. turtle.drawCircle(50)

1.31 To lift the pen, use _____.

- A. turtle.penUp()
- B. turtle.penup()
- C. turtle.lift()
- D. turtle.up()

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1.32 To put the pen down, use _____.

- A. turtle.penDown()
- B. turtle.pendown()
- C. turtle.putDown()
- D. turtle.down()

Section 2.3 Reading Input from the Console

2.1 What function do you use to read a string?

- A. input("Enter a string")
- B. eval(input("Enter a string"))
- C. enter("Enter a string")
- D. eval(enter("Enter a string"))

2.2 What is the result of eval("1 + 3 * 2")?

- A. "1 + 3 * 2"
- B. 7
- C. 8
- D. "1 + 6"

2.3 If you enter 1 2 3 in three separate lines, when you run this program, what will be displayed?

```
print("Enter three numbers: ")
number1 = eval(input())
number2 = eval(input())
number3 = eval(input())
```

```
# Compute average
```

```
average = (number1 + number2 + number3) / 3
```

```
# Display result
```

```
print(average)
```

- A. 1.0
- B. 2.0
- C. 3.0
- D. 4.0

2.4 _____ is the code in natural language mixed with some program code.

- A. Python program
- B. A Python statement
- C. Pseudocode
- D. A flowchart diagram

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2.5 If you enter 1 2 3 in one line, when you run this program, what will happen?

```
print("Enter three numbers: ")
number1 = eval(input())
number2 = eval(input())
number3 = eval(input())
```

```
# Compute average
```

```
average = (number1 + number2 + number3) / 3
```

```
# Display result
```

```
print(average)
```

- A. The program runs correctly and displays 1.0
- B. The program runs correctly and displays 2.0
- C. The program runs correctly and displays 3.0
- D. The program runs correctly and displays 4.0
- E. The program will have a runtime error on the input.

2.6 You can place the line continuation symbol `_` at the end of a line to tell the interpreter that the statement is continued on the next line.

- A. /
- B. \
- C. #
- D. *
- E. &

Section 2.4 Identifiers

2.7 An identifier cannot be a keyword?

- A. true
- B. false

2.8 An identifier can contain digits, but cannot start with a digit?

- A. true
- B. false

2.9 Which of the following is a valid identifier?

- A. \$343
- B. mile
- C. 9X
- D. 8+9
- E. max_radius

2.10 Which of the following is a valid identifier?

- A. import
- B. mile1
- C. MILE
- D. (red)
- E. "red"

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Section 2.5 Variables, Assignment Statements, and Expressions

2.11 If you enter 1, 2, 3, in one line, when you run this program, what will be displayed?

```
number1, number2, number3 = eval(input("Enter three numbers: "))
```

```
# Compute average
```

```
average = (number1 + number2 + number3) / 3
```

```
# Display result
```

```
print(average)
```

A. 1.0

B. 2.0

C. 3.0

D. 4.0

2.12 What will be displayed by the following code?

```
x = 1
```

```
x = 2 * x + 1
```

```
print(x)
```

A. 0

B. 1

C. 2

D. 3

E. 4

2.13 What will be displayed by the following code?

```
x = 1
```

```
x = x + 2.5
```

```
print(x)
```

A. 1

B. 2

C. 3

D. 3.5

E. The statements are illegal

Section 2.6 Simultaneous Assignments

2.14 What will be displayed by the following code?

```
x, y = 1, 2
```

```
x, y = y, x
```

```
print(x, y)
```

A. 1 1

B. 2 2

C. 1 2

D. 2 1

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2.15 To following code reads two number. Which of the following is the correct input for the code?

```
x, y = eval(input("Enter two numbers: "))
```

- A. 1 2
- B. "1 2"
- C. 1, 2
- D. 1, 2,

Section 2.8 Numeric Data Types and Operators

2.16 What is the result of $45 / 4$?

- A. 10
- B. 11
- C. 11.25
- D. 12

2.17 In the expression $45 / 4$, the values on the left and right of the $/$ symbol are called ____.

- A. operators
- B. operands
- C. parameters
- D. arguments

2.18 What is the result of $45 // 4$?

- A. 10
- B. 11
- C. 11.25
- D. 12

2.19 Which of the following expressions will yield 0.5?

- A. $1 / 2$
- B. $1.0 / 2$
- C. $1 // 2$
- D. $1.0 // 2$
- E. $1 / 2.0$

2.20 Which of the following expression results in a value 1?

- A. $2 \% 1$
- B. $15 \% 4$
- C. $25 \% 5$
- D. $37 \% 6$

2.21 $25 \% 1$ is ____

- A. 1
- B. 2
- C. 3
- D. 4
- E. 0

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2.22 $24 \% 5$ is ____

- A. 1
- B. 2
- C. 3
- D. 4
- E. 0

2.23 $2 ** 3$ evaluates to ____.

- A. 9
- B. 8
- C. 9.0
- D. 8.0

2.24 $2 ** 3.0$ evaluates to ____.

- A. 9
- B. 8
- C. 9.0
- D. 8.0

2.25 $2 * 3 ** 2$ evaluates to ____.

- A. 36
- B. 18
- C. 12
- D. 81

2.26 What is y displayed in the following code?

```
x = 1
```

```
y = x = x + 1
```

```
print("y is", y)
```

- A. y is 0.
- B. y is 1 because x is assigned to y first.
- C. y is 2 because $x + 1$ is assigned to x and then x is assigned to y.
- D. The program has a compile error since x is redeclared in the statement `int y = x = x + 1`.

2.27 Which of the following is equivalent to 0.025?

- A. 0.25E-1
- B. 2.5e-2
- C. 0.0025E1
- D. 0.00025E2
- E. 0.0025E+1

2.28 If a number is too large to be stored in memory, it ____.

- A. causes overflow
- B. causes underflow
- C. causes no error
- D. cannot happen in Python

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Section 2.9 Evaluating Expressions and Operator Precedence

2.29 What is the result of evaluating $2 + 2 ** 3 / 2$?

- A. 4
- B. 6
- C. 4.0
- D. 6.0

Section 2.10 Augmented Assignment Operators

2.30 What is the value of i printed?

```
j = i = 1
i += j + j * 5
print("What is i?", i)
```

- A. 0
- B. 1
- C. 5
- D. 6
- E. 7

2.31 What is x after the following statements?

```
x = 1
x *= x + 1
```

- A. x is 1
- B. x is 2
- C. x is 3
- D. x is 4

2.32 What is x after the following statements?

```
x = 2
y = 1
x *= y + 1
```

- A. x is 1.
- B. x is 2.
- C. x is 3.
- D. x is 4.

2.33 To add a value 1 to variable x, you write

- A. $1 + x = x$
- B. $x += 1$
- C. $x := 1$
- D. $x = x + 1$
- E. $x = 1 + x$

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2.34 Which of the following statements are the same?

- (A) $x -= x + 4$
- (B) $x = x + 4 - x$
- (C) $x = x - (x + 4)$
- A. (A) and (B) are the same
- B. (A) and (C) are the same
- C. (B) and (C) are the same
- D. (A), (B), and (C) are the same

2.35 To add number to sum, you write (Note: Python is case-sensitive)

- A. `number += sum`
- B. `number = sum + number`
- C. `sum = Number + sum`
- D. `sum += number`
- E. `sum = sum + number`

2.36 Suppose x is 1. What is x after `x += 2`?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4

2.37 Suppose x is 1. What is x after `x -= 1`?

- A. 0
- B. 1
- C. 2
- D. -1
- E. -2

2.38 What is x after the following statements?

- `x = 1`
- `y = 2`
- `x *= y + 1`
- A. x is 1
- B. x is 2
- C. x is 3
- D. x is 4

Section 2.11 Type Conversions and Rounding

2.39 Which of the following functions return 4.

- A. `int(3.4)`
- B. `int(3.9)`
- C. `round(3.4)`
- D. `round(3.9)`

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2.40 Which of the following functions cause an error?

- A. `int("034")`
- B. `eval("034")`
- C. `int("3.4")`
- D. `eval("3.4")`

Section 2.12 Case Study: Displaying the Current Time

2.41 The `time.time()` returns _____ .

- A. the current time.
- B. the current time in milliseconds.
- C. the current time in milliseconds since midnight.
- D. the current time in milliseconds since midnight, January 1, 1970.
- E. the current time in milliseconds since midnight, January 1, 1970 GMT (the Unix time).