**You can read the following textbook to find the answers:**

- **Python for Everyone, 2nd Edition, Cay S. Horstmann, Rance D. Necaise, Wiley, 2016.**

1. A computer program is a sequence of:
    1. ones and zeroes.
    2. instructions and decisions.
    3. primary and secondary storage.
    4. processors and compilers.
2. Computers are machines that:
    1. are imprecise and slow.
    2. design computer programs.
    3. execute programs.
    4. carry out a very narrow range of tasks.
3. Which of the following refers to a collection of programs that a computer executes?
    1. Compiler
    2. Software
    3. Instructions
    4. Source Code
4. Which parts of the computer store program code?
    1. CPU
    2. Secondary storage
    3. Monitor
    4. Keyboard
5. Which of the following items is NOT considered hardware:?
    1. a keyboard.
    2. a speaker.
    3. a program.
    4. a microphone.
6. The Central Processing Unit is primarily responsible for:
    1. ensuring data persists when electrical power is turned off.
    2. enabling a human user to interact with the computer.
    3. interconnecting computers that are separated by distance.
    4. performing program control and data processing.
7. Computers store both data and programs not currently running in:
    1. Primary storage.
    2. Central processing unit.
    3. Secondary storage.
    4. Transistors.
8. Which of the following hardware devices is NOT considered an input device?
    1. Keyboard
    2. Monitor
    3. Mouse

    4. Microphone
9. Which of the following hardware devices is NOT considered an output device?
    1. Speaker
    2. Monitor
    3. Printer
    4. Microphone
10. When the computer begins to run a program,
    1. the program is moved from secondary storage to memory.
    2. the program is moved from secondary storage to the network controller.
    3. the program is moved from the CPU to memory.
    4. the program is moved from the CPU to secondary storage.
11. What part of the computer carries out arithmetic operations, such as addition, subtraction, multiplication and division?
    1. CPU
    2. Network
    3. Primary storage
    4. Secondary storage
12. High-level programming languages were created to:
    1. Allow programmers to describe the solution to a problem one CPU instruction at a time
    2. Make programming less error-prone and less tedious
    3. Maximize the running time of programs
    4. Translate CPU instructions into high-level instructions
13. What are two of the most important benefits of the Python language?
    1. Advanced mathematical equations and fast programs
    2. Ease of use and fast programs
    3. Ease of use and portability
    4. Fast programs and smaller programs
14. What is wrong with the following code snippet:

```
num1 = 10
num2 = 20
num3 = 30
total = Num1 + Num2 + Num3
```

    1. Nothing, the variable `total` will be the sum of the three numbers
    2. Python is case sensitive so `Num1`, `Num2`, and `Num3` are undefined
    3. `total` must be initialized to zero first
    4. The numbers should be `10.0, 20.0` and `30.0`
15. An integrated development environment bundles tools for programming into a unified application. What kinds of tools are usually included?
    1. A web browser
    2. An editor and an interpreter
    3. Presentation tools
    4. Source files and bytecode files
16. What is the difference between an editor and an interpreter?

    1. An editor allows program files to be entered and modified; an interpreter reads and executes program files
    2. An editor allows program files to be entered and modified; an interpreter produces an indexed database of terms and keywords
    3. An editor allows program files to be entered and modified; an interpreter produces an organized list of files
    4. An editor converts program files into an executable program; an interpreter allows program files to be entered and modified
17. What reads Python programs and executes the program instructions?
    1. editor
    2. CPU
    3. compiler
    4. interpreter
18. What extension is used for Python files?
    1. .Python
    2. .py
    3. .dat
    4. .txt
19. By entering the command `python3`, the program runs in which mode?
    1. interactive mode
    2. print mode
    3. command mode
    4. backup mode
20. The Python compiler reads the file containing your source code and converts it to:
    1. machine code
    2. assembly code
    3. byte code
    4. virtual machine code
21. What is the correct sequence of steps invoked by the Python Interpreter:
    1. source code -> virtual machine -> byte code -> compiler
    2. source code -> compiler -> byte code -> virtual machine
    3. compiler -> source code -> virtual machine -> byte code
    4. byte code -> virtual machine -> source code -> compiler
22. Which line in the following program is a comment line?

```
1:  print("Your lucky number is...")
2:  lucky = 7
3:  # Display the lucky number
4:  print(lucky)
```

    1. Line number 1
    2. Line number 2
    3. Line number 3
    4. Line number 4
23. What is the purpose of a comment?
    1. A comment provides information to the virtual machine

2. A comment provides information to the compiler
3. A comment provides information to the programmer
4. A comment provides information to the user running the program

24. A collection of programming instructions that carry out a particular task is called a:
    1. program
    2. compiler
    3. function
    4. comment
25. To use or call a function, you need to specify:
    1. the function name and its arguments
    2. the function name only
    3. the function name and at least one argument
    4. the function name and a comment describing its use
26. A sequence of characters enclosed in quotes is called:
    1. a string
    2. a list
    3. a function
    4. an argument
27. Which of the following is considered a `string` in Python?
    1. `Today is Wednesday`
    2. `"Today is Wednesday"`
    3. `# Today is Wednesday #`
    4. `Today_is_Wednesday`
28. What is wrong with the following code snippet?

```
print("Hello")
   print("World!")
```

    1. The print function cannot be called twice
    2. The print function is missing an argument
    3. Nothing, the program prints `Hello World` on the same line
    4. The second line should not be indented
29. What is printed by the following code snippet?

```
print(25 + 84)
```

    1. `2584`
    2. `109`
    3. `25 + 84`
    4. Nothing, this code snipped causes a compile time error
30. What is printed by the following code snippet?

```
print("The answer is", 25 + 84)
```

    1. `The answer is 2584`

2. `The answer is 109`
3. `The answer is 25 + 84`
4. Nothing, this code snipped causes a compile time error

31. What is printed by the following code snippet?

```
print("The answers are:", 4 + 3 * 2, 7 * 5 - 24)
```

1. `The answers are: 10 11`
2. `The answers are: 14 11`
3. `The answers are: 24 10`
4. Nothing, this code snipped causes a compile time error

32. What is printed by the following code snippet?

```
print("25 + 84")
```

1. `2584`
2. `109`
3. `25 + 84`
4. Nothing, this code snipped causes a compile time error

33. What is printed by the following code snippet?

```
print(Hello)
```

1. Nothing, an error is produced indicating that `Hello` is not defined
2. `Hello`
3. `'Hello'`
4. `"Hello"`

34. What is printed by the following code snippet?

```
print("Good", "Morning", "Class", "!")
```

1. `GoodMorningClass!`
2. `Good Morning Class!`
3. `Good Morning Class !`
4. nothing, this code produces a syntax error

35. What is another name for a compile-time error?
    1. Logic error
    2. Semantic error
    3. Syntax error
    4. Lexicographic error
36. Although the following code statement is valid, `print(10/0)`, what will happen when this code is executed?
    1. The program prints 0
    2. The error message `ZeroDivisionError: int division or modulo by zero` is displayed

3. The program runs, but nothing is printed
4. The error message `SyntaxError: EOL while scanning string literal`

37. The programmer, not the compiler, is responsible for testing a program to identify what?
    1. Undefined symbols
    2. Syntax errors
    3. Logic errors
    4. Out-of-memory errors
38. What is it called when you describe the steps that are necessary for finding a solution to a problem in programming?
    1. algorithm
    2. compile
    3. interpret
    4. code
39. The following pseudocode calculates the total purchase price for an item including sales tax, what is the missing last line?

```
Start by setting the total cost to zero.
Ask the user for the item cost.
Ask the user for the tax rate.
Set the item tax to item cost times tax rate.
 ____________________________________
```

    1. Set the total cost to the item cost plus the tax rate.
    2. Set the total cost to the item cost times the tax.
    3. Set the total cost to the item cost plus the tax.
    4. Set the total cost to the item tax.
40. What is the purpose of the following algorithm, written in pseudocode?

```
num = 0
Repeat the following steps 15 times
    Ask user for next number
    If userNum > num
       num = userNum
Print num
```

    1. To print out the 15 numbers
    2. To find the smallest among 15 numbers
    3. To search for a particular number among 15 numbers
    4. To find the highest among 15 numbers
41. Which of the following is NOT an example of an algorithm?
    1. A recipe to make chocolate chip cookies
    2. A grocery list
    3. Instructions for changing a flat tire
    4. Steps required to calculate the amount of paint required to paint a room
42. Which of the following pseudocode statements represents a decision?
    1. For each number in a sequence...
    2. While the balance is > 0

3. total cost = unit cost + tax
4. if total cost > 15

43. Which of the following pseudocode statements represents a repetition statement?
    1. if total cost > 15
    2. set i equal to 3
    3. total cost = unit cost + tax
    4. while the balance is > 0
44. Which of the following statements is **NOT** correct?
    1. Pseudocode should be unambiguous.
    2. Pseudocode should be executable.
    3. Pseudocode should be properly formatted.
    4. Pseudocode should be terminating.
45. Imagine that you are planning to buy a new cell phone. After doing some research, you have determined that there are two different cell phones that will meet your needs. These cell phones have different purchase prices and each mobile service provider charges a different rate for each minute that the cell phone is used. In order to determine which cell phone is the better buy, you need to develop an algorithm to calculate the total cost of purchasing and using each cell phone. Which of the following options lists all the inputs needed for this algorithm?
    1. The cost of each cell phone and the rate per minute for each cell phone
    2. The cost of each cell phone and the number of minutes provided with each cell phone
    3. The cost of each cell phone, the rate per minute for each cell phone, and the number of minutes provided with each cell phone
    4. The cost of each cell phone, the rate per minute for each cell phone, and the number of minutes you would use the cell phone
46. In order to run Python programs, the computer needs to have software called a(n)?
    1. debugger
    2. interpreter
    3. windows
    4. assembler
47. A Python interpreter is:
    1. a folder hierarchy
    2. a piece of hardware
    3. a piece of software
    4. a type of secondary storage
48. Consider the following pseudocode. What does it produce?

```
Create a list of consecutive integers from two to n (2, 3, 4, ..., n).
Initially, let p equal 2.
Repeat the following steps until p is greater than n:
    Remove all of the multiples of p less than or equal to n from the
list.
    If the list contains a number greater than p
        Find the first number remaining in the list greater than p.
        Replace p with this number.
    Otherwise set p equal to n + 1
```

1. All even numbers up to n
2. All factorial numbers up to n
3. All odd numbers up to n
4. All prime numbers up to n

49. Consider the following pseudocode. What does it produce?

```
Set a = 0
Set b = 0
Set c = 1
Set d = 1
Report the value of d
Repeat until a equals 10
   Set d = b + c
   Set b = c
   Set c = d
   Add 1 to a
   Report the value of d
```

1. 1 1 2 3 5 8 13 21 34 55 89
2. 1 1 3 5 7 9 11 13 15 17 19 21
3. 1 1 3 6 9 12 15 18 21 24 27 30
4. 1 2 3 4 5 6 7 8 9 10 11

50. A sequence of steps that is unambiguous, executable, and terminating is called:
    1. a logarithm
    2. a programming task
    3. an algorithm
    4. pseudocode
51. Which of the follow statements is most correct?
    1. Computer programs are comprised of a large number of simple instructions.
    2. Computer programs are comprised of a large number of sophisticated instructions.
    3. Computer programs are comprised of a small number of simple instructions.
    4. Computer programs are comprised of a small number of sophisticated instructions.
52. Which of the following is **not** a benefit of the Python programming language compared to other popular programming languages like Java, C and C++?
    1. Python encourages experimentation and rapid turn around
    2. Python has a cleaner syntax
    3. Python is easier to use
    4. Python programs run more quickly
53. Which of the following code segments will display `Hello World!` when it is run?
    1. `print(Hello "," World"!")`
    2. `print("Hello", "World!")`
    3. `print("Hello", "World", "!")`
    4. `print("Hello", ",", "World", "!")`
54. When a function is called, the values placed in parentheses are referred to as:
    1. arguments
    2. keywords

3. operators
4. statements

55. Which type of error is usually the most difficult to locate in your program?
    1. Indentation Error
    2. Logic Error
    3. Syntax Error
    4. Zero Division Error