

Chapter 2: First Java Programs

TRUE/FALSE

1. Java bears a superficial resemblance to C++.

ANS: T PTS: 1 REF: 32

2. Java is ideally suited to developing distributed, network-based applications.

ANS: T PTS: 1 REF: 32

3. Java applets have little risk of infecting your computer with a virus.

ANS: T PTS: 1 REF: 33

4. Source code is the bulk of the instructions of a program.

ANS: T PTS: 1 REF: 35

5. UNIX is available on any Macintosh computer that runs MacOS X.

ANS: T PTS: 1 REF: 38

6. A DOS development environment combines an editor, Java compiler, debugger, and a JVM.

ANS: F PTS: 1 REF: 38

7. The main factor affecting a program's readability is misspelled words.

ANS: F PTS: 1 REF: 40 | 41

8. In Java, as in algebra, addition and subtraction have a higher precedence than multiplication and division .

ANS: F PTS: 1 REF: 44

9. Graphics and GUI programs in Java can run either as stand-alone applications or as applets.

ANS: T PTS: 1 REF: 46

10. Java programs accomplish many tasks by sending messages to objects.

ANS: T PTS: 1 REF: 52

MODIFIED TRUE/FALSE

1. GUI is the machine language for an imaginary Java computer. _____

ANS: F, Byte code

PTS: 1 REF: 32

2. The main advantage of a compiler is that any computer can run it. _____

ANS: F, interpreter

PTS: 1 REF: 33

3. The terminal I/O user interface is familiar to all PC users. _____

ANS: F
GUI
graphical

PTS: 1 REF: 33

4. Syntax errors is another term for compile-time errors. _____

ANS: T PTS: 1 REF: 40

5. Parameters are used to share information between objects. _____

ANS: T PTS: 1 REF: 43

MULTIPLE CHOICE

1. Which of the following is NOT true about Java?
a. Java is an object-based language.
b. Java creates programs that are portable.
c. The Java compiler translates into machine language.
d. Java supports threads.

ANS: C PTS: 1 REF: 32

2. Java is all of the following EXCEPT _____.
a. fast c. robust
b. secure d. portable

ANS: A PTS: 1 REF: 32

3. A(n) _____ is a process that can run concurrently with other processes.
a. applet c. interpreter
b. thread d. parameter

ANS: B PTS: 1 REF: 32

4. To run Java byte code, you must install a(n) _____.
a. GUI c. IDE
b. JIT d. JVM

ANS: D PTS: 1 REF: 32

5. A(n) _____ is a program that behaves like a computer.
a. interpreter c. terminal I/O
b. compiler d. applet

ANS: A PTS: 1 REF: 32

6. Some JVMs translate byte code instructions into machine language when they are first encountered, using the ____ technique.
- a. IDE
 - b. JIT
 - c. variable
 - d. interpreter

ANS: B PTS: 1 REF: 32 | 33

7. A(n) ____ is a small Java program that runs on Web pages.
- a. JIT
 - b. parameter
 - c. JVM
 - d. applet

ANS: D PTS: 1 REF: 33

8. All of the following are benefits of using a terminal I/O interface EXCEPT ____.
- a. In Java, it is easier to implement than GUI.
 - b. It is more common and familiar.
 - c. Some programming situations require a terminal I/O interface.
 - d. Terminal-oriented programs are similar to programs that process files of sequentially organized data.

ANS: B PTS: 1 REF: 34

9. A ____ is used to mark the end of each statement in a program.
- a. comma (,)
 - b. slash (/)
 - c. period (.)
 - d. semicolon (;)

ANS: D PTS: 1 REF: 35

10. The string of characters that appears between the parentheses following the message in Java code is called a(n) ____.
- a. parameter
 - b. statement
 - c. variable
 - d. thread

ANS: A PTS: 1 REF: 35

11. The three steps to writing and running a program, in order, are ____.
- a. enter, edit, compile
 - b. edit, execute, compile
 - c. edit, compile, execute
 - d. enter, interpret, compile

ANS: C PTS: 1 REF: 37

12. ____ is an editor available with Microsoft Windows.
- a. Linux
 - b. UNIX
 - c. BlueJ
 - d. Notepad

ANS: D PTS: 1 REF: 38

13. All of the following are examples of integrated development environments, EXCEPT ____.
- a. BlueJ
 - b. Eclipse
 - c. JFrame
 - d. JGrasp

ANS: C PTS: 1 REF: 38

14. The main factor affecting a program's readability is its ____.

- a. layout
- b. spelling
- c. language
- d. development environment

ANS: A PTS: 1 REF: 41

15. SomeClass someObject = new SomeClass (some parameters); is an example of ____.
- a. assignment
 - b. instantiation
 - c. byte code
 - d. interpretation

ANS: B PTS: 1 REF: 43

16. ____ is an assignment operator.
- a. +
 - b. *
 - c. =
 - d. All of the above.

ANS: C PTS: 1 REF: 44

17. A(n) ____ has a container or pane that can be filled with other objects.
- a. JFrame
 - b. panel
 - c. window
 - d. IDE

ANS: A PTS: 1 REF: 48

18. Colors in most computer systems use the ____ scheme.
- a. color class
 - b. RGB
 - c. CMYK
 - d. GUI

ANS: B PTS: 1 REF: 48

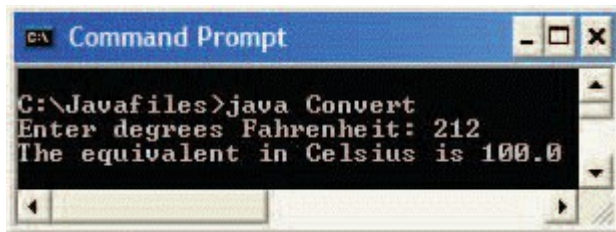
FIGURE 2-1



19. Figure 2-1 above represents a(n) ____ user interface.
- a. GUI
 - b. JVM
 - c. terminal I/O
 - d. variable

ANS: A PTS: 1 REF: 33

FIGURE 2-2



20. Figure 2-2 above represents a(n) ____ user interface.
- a. GUI
 - b. JVM
 - c. terminal I/O
 - d. variable

ANS: C

PTS: 1

REF: 33

Case 2-1

Jeremiah is a C++ programmer who has been asked by a client to create a program using Java.

21. Jeremiah knows that Java is ____.
- better suited to the Internet than C++
 - more error-prone than C++
 - the world's most popular industrial-strength programming language
 - superficially very different from C++

ANS: A

PTS: 1

REF: 32

TOP: Critical Thinking

22. Jeremiah will incorporate ____ into his Java program in order to allow multiple processes to occur at once, such as an image being transferred from one machine to another across a network, while another process simultaneously interacts with the user.
- variables
 - threads
 - panels
 - applets

ANS: B

PTS: 1

REF: 32

TOP: Critical Thinking

Case 2-2

Lucia is editing a program using Java. She has to install a development environment on her computer before she can get started.

23. Lucia considers using the ____ development environment, which has the most widespread use.
- JGrasp
 - Notepad
 - DOS
 - UNIX

ANS: C

PTS: 1

REF: 38

TOP: Critical Thinking

24. Lucia decides to use the ____ development environment so that she can increase her productivity.
- JGrasp
 - Notepad
 - DOS
 - UNIX

ANS: A

PTS: 1

REF: 38

TOP: Critical Thinking

COMPLETION

1. _____ is the fastest growing programming language in the world.

ANS: Java

PTS: 1

REF: 31

2. A comical animated character on a Web page is likely run using a program called a(n) _____.

ANS: applet

PTS: 1

REF: 33

3. A(n) _____ is a programmer who breaks into computer systems in an unauthorized way.

ANS:
hacker
hack

PTS: 1 REF: 41

4. In the _____ layout, the default layout manager for frames, you can arrange up to five objects.

ANS: border

PTS: 1 REF: 49

5. In the _____ layout, objects are arranged in rows and columns.

ANS: grid

PTS: 1 REF: 51

MATCHING

Identify the letter of the choice that best matches the phrase or definition.

- a. Applet
 - b. GUI
 - c. IDE
 - d. Pane
 - e. Byte code
1. An example could be a continuous stream of stock quotes.
 2. Windows are often organized into many of these.
 3. To run this, you must install a JVM on the computer.
 4. Eclipse is an example.
 5. Familiar interface for PC users.

- | | | |
|-----------|--------|---------|
| 1. ANS: A | PTS: 1 | REF: 33 |
| 2. ANS: D | PTS: 1 | REF: 48 |
| 3. ANS: E | PTS: 1 | REF: 32 |
| 4. ANS: C | PTS: 1 | REF: 38 |
| 5. ANS: B | PTS: 1 | REF: 33 |

ESSAY

1. List at least three reasons why Java is used by companies such as Sun and IBM to develop their major applications. Why might a programmer choose another language?

ANS:

Four possible reasons to use Java are:

1. It is a modern object-oriented programming language that uses the best features of languages such as C++ and Smalltalk.

2. Java is secure (tamper- and virus-free), robust (programs do not overwrite memory), and portable (programs can be run on different computer types).
3. Java uses advanced programming concepts, such as threads.
4. Java resembles C++, making it easy for C++ programmers to learn Java and vice versa.

Why a programmer might choose another language:

Java runs more slowly than other modern programming languages because it must be interpreted using a JVM.

PTS: 1

REF: 32

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