

Introduction to Java – REVIEW

- 1) List the three features of every object-oriented programming languages
- 2) Write an appropriate comment block for the beginning of a program to describe an application that is intended to calculate test averages.
- 3) Write a statement that declares a package with the name gradeCalculator
- 4) Write a statement that declares a class named AverageScore that is available to any code
- 5) Explain the difference between source code and bytecode
- 6) The following application has seven syntax errors. What are they?

```
//
* Test.java
* What's wrong application
* Student Name
*/

package testMyKnowledge;

/**
 * The Test class should display a string,
 */

public class Test {

    private static int main(string[] args) {
        System.out.println("Testing...")
    }
}
```

- 7) Explain the difference between the print() and println() methods.
- 8) Explain the advantages of using the format() method in place of the print() and println() methods
- 9) There are five places in which the application below does not follow the code conventions outlined in this chapter. What are they?

```
*
*  getGreeting.java
*  What's wrong application.
*  Student Name
*/

package notSoGood;

/**
 * Good Morning is dipslayed.
 */
public class GetGreeting {

    public static void main(String[] args){
        //Output Good Morning to the screen
        System.out.println("Good Morning");
    }}

```

True/False

- 10) Determine if each of the following are true or false. If false, explain why.
 - a. Java applications can run only on the Windows platform.
 - b. Statements must end with a semicolon.
 - c. Comments have no effect on program execution.
 - d. The main() method is placed in the controlling class.
 - e. Related statements are enclosed with brackets []
 - f. A file containing only source code can be executed on a computer.
 - g. Compiled source code is called machine code.
 - h. A program containing syntax errors will compile.
 - i. An algorithm is a set of steps that outline how to solve a problem.
 - j. Pseudocode cannot be used to implement an algorithm.

Answers

1. Three features of every object-oriented programming language are encapsulation, inheritance, and polymorphism.
2. *Answers will vary. A possible answer is:*

```
/*  
 * Average.java  
 * Calculates test averages.  
 * A Student  
 * Course  
 * Date  
 */  
3. package gradeCalculator;  
4. public class AverageScore
```
5. Source code is the code typed by a programmer. For source code to execute, or run, it must be translated to code the computer understands in a process called compiling. Compiled Java source code is called bytecode.
6. The seven syntax errors in the application are:
 - first line: `//` should be `/*`
 - main method line: `private` should be `public`, `int` should be `void`, `string` should be capitalized
 - the line `System.out.println("Testing...)` is missing a quote and needs a semicolon
 - The application requires an ending brace
7. The `print()` method displays data and leaves the insertion point at the end of the output. Whereas, `println()` moves the insertion point to the next line after displaying output.
8. The `format()` method allows for control of the way the output is displayed.
9. The five places in the application where code conventions are not followed are:
 - Class name should be a noun.
 - Class name should start with an uppercase letter.
 - Statements in a method should be indented.
 - The output comment reiterates what is clear from the code.
 - The last closing brace should be on a separate line.
10. a) False. Java applications are platform-independent.
b) True.
c) True.
d) True.
e) False. Related statements are enclosed with braces (`{}`).
f) False. The source code must be compiled.
g) False. Compiled source code is called bytecode.
h) False. A file containing syntax errors will not compile.
i) True.
j) False. Pseudocode can be used to implement an algorithm.