

1. a) List three features of every object-oriented programming language.

- Reusability
- Modularity
- Designing objects

b) Explain, in your own words, what you think the meaning is of each of the three features listed in part (a).

- **Reusability:** Allows you to reuse different classes and libraries for other purposes in your code.
- **Modularity:** Linking multiple programs or so called “modules” to create a full program or system.
- **Designing objects:** Allows for formatting and different ways of output, as well as constructors for any constants/variables.

3. Write an appropriate comment block for the beginning of a program to describe an application that is intended to calculate test averages.

```
/**  
 * TestAvg.java  
 * This application is used to calculate a test average.  
 */
```

7. Explain the difference between source code and bytecode.

Source code is code that is made from a programming language, which programmers write with and compile them to work with the computer. Bytecode is the compiled source code that the programmer writes.

8. Describe machine code.

Machine code is comprised of 1s and 0s, and is different between computer platforms. It is created when an interpreter runs through the code, converting it so the computer can read it.

11. 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...")
    }
}
```

← syntax error: supposed to be /**

← class and package have different names.

← syntax error (public static void main)

← missing quotation in bracket ← missing semicolon

← missing bracket

12. Explain the difference between the print() and println() methods.

print() leaves the insertion point at the end of the line, while println() moves the insertion point to the next line. This method is like endl; in C++, when using the cout command.

13. Explain the advantages of using the format() method in place of the print() and println() methods.

format() allows for special formatting.