Chapter 1 Testbank: Introduction

Multiple Choice

1. Which statement best describes a computer program?
A) A program is a sequence of comments.
B) A program can decide what task it is to perform.
C) A program is a sequence of instructions and decisions that the computer carries out.
D) A program can only perform one simple task.

Ans: C
Section Ref: Section 1.1 Computer Programs
Title: Which statement best describes a computer program?
Difficulty: Easy

2. Which statement regarding computer programs is correct?
A) Computer programs can decide what task to perform.
B) Large and complex computer programs are generally written by only one programmer.
C) Computer programs are composed of extremely primitive operations.
D) Small computer programs are not documented.

Answer: c
Section reference: Section 1.1 Computer Programs
Title: Which statement regarding computer programs is correct?
Difficulty: Easy

3. What does CPU stand for?
A) Computer Programming Unit
B) Computer Processing Unit
C) Central Processing Unit
D) Central Programming Unit

Ans: C
Section Ref: Section 1.2 The Anatomy of a Computer
Title: What does CPU stand for?
Difficulty: Easy

4. Which one of the following is NOT a function of a CPU?
A) Performing arithmetic operations
B) Processing data and controlling programs
C) Querying a database

D) Fetching and storing data from storage and input devices

Ans: C
Section Ref: Section 1.2 The Anatomy of a Computer
Title: Which one of the following is NOT a function of a CPU?
Difficulty: Easy

5. Which type of storage is made from memory chips?
A) CD
B) hard disk
C) primary storage
D) DVD

Ans: C
Section Ref: Section 1.2 The Anatomy of a Computer
Title: Which type of storage is made from memory chips?
Difficulty: Easy

6. Which one of the following memory types provides storage that persists without electricity?
A) primary storage
B) RAM
C) memory
D) secondary storage

Ans: D
Section Ref: Section 1.2 The Anatomy of a Computer
Title: Which one of the following memory types provides storage that persists without electricity?
Difficulty: Easy

7. Which type of secondary storage consists of rotating platters, which are coated with a magnetic material, and read/write heads, which can detect and change the patterns of varying magnetic flux on the platters?
A) hard disk
B) flashdrive
C) DVD
D) RAM

Ans: A
Section Ref: Section 1.2 The Anatomy of a Computer
Title: Which type of secondary storage consists of rotating platters?
Difficulty: Easy

8. What are the electrical lines called that interconnect the CPU, RAM, and the electronics controlling the hard disk and other devices?
A) bus
B) network
C) optical disk
D) power lines

Ans: A
Section Ref: Section 1.2 The Anatomy of a Computer
Title: What are the electrical lines called on a computer?
Difficulty: Easy

9. Which part of a computer contains the CPU, the RAM, and connectors to peripheral devices?
A) network
B) bus
C) motherboard
D) optical disk

Ans: C
Section Ref: Section 1.2 The Anatomy of a Computer
Title: Which part of a computer contains the CPU, the RAM, and connectors to peripheral devices?
Difficulty: Easy

10. For a program to be executed, where must it reside so that the CPU can read its instructions?
A) optical disk
B) primary memory
C) secondary memory
D) hard disk

Ans: B
Section Ref: Section 1.2 The Anatomy of a Computer
Title: For a program to be executed, where must it reside so that the CPU can read its instructions?
Difficulty: Easy

11. Which memory type does not provide persistent storage?

A) secondary storage
B) hard disk
C) primary storage
D) DVD

Answer: c
Section reference: 1.2 The Anatomy of a Computer
Title: Which memory type does not provide persistent storage?
Difficulty: Easy

12. Which of the following is not contained on the motherboard of a computer?
A) RAM
B) integrated circuit
C) hard disk
D) CPU

Answer: c
Section reference: 1.2 The Anatomy of a Computer
Title: Which of the following is not contained on the motherboard of a computer?
Difficulty: Easy

13. What term is used to refer to the computer instructions that are executed by a CPU, which are specific to each CPU?
A) virtual machine
B) machine code
C) high-level code
D) instruction set

Ans: B
Section Ref: Section 1.3 The Java Programming Language
Title: What term is used to refer to the computer instructions that are executed by a CPU?
Difficulty: Easy

14. What is the JVM?
A) A vital machine that never fails to run compiled Java code.
B) A vital machine that compiles Java code into machine instructions.
C) A virtual machine that runs compiled Java code on any CPU.
D) A virtual machine that compiles Java code into machine instructions.

Answer: c
Section reference: 1.3 The Java Programming Language
Title: What is the JVM?
Difficulty: Easy

15. What is the term used to refer to Java code that runs in a browser?
A) applet
B) script
C) html
D) class

Answer: a
Section reference: 1.3 The Java Programming Language
Title: What is the term used to refer to Java code that runs in a browser?
Difficulty: easy

16. What term is used to refer to languages that allow programmers to describe tasks at a higher conceptual level than machine code?
A) virtual
B) high-level

C) sophisticated
D) conceptual

Ans: B
Section Ref: Section 1.3 The Java Programming Language
Title: What term is used to refer to languages that allow programmers to describe tasks at a higher conceptual level than machine code?
Difficulty: Easy

17. What translates high-level descriptions into machine code?
A) debugger
B) assembler
C) compiler
D) linker

Ans: C
Section Ref: Section 1.3 The Java Programming Language
Title: What translates high-level descriptions into machine code?
Difficulty: Easy

18. What translates Java source code into files that contain instructions for the JVM?
A) linker
B) compiler
C) assembler
D) interpreter

Ans: B
Section Ref: Section 1.3 The Java Programming Language
Title: What translates Java source code into files that contain instructions for the JVM?
Difficulty: Easy

19. Which statement is true about running a Java program on a different CPU?
A) You need different Java source code for each processor.
B) You can take code that has been generated by the Java compiler and run it on different CPUs.
C) You need to recompile the Java program for each processor.
D) You cannot run the program on a computer with a different processor because Java, being a high-level programming language, is machine dependent.

Ans: B
Section Ref: Section 1.3 The Java Programming Langauge
Title: Which statement is true about running a Java program on a different CPU?
Difficulty: Medium

20. When was Java officially introduced?
A) 1989
B) 1995
C) 2005
D) 2000

Ans: B
Section Ref: Section 1.3 The Java Programming Language
Title: When was Java officially introduced?
Difficulty: Easy

21. Which statement best describes the portability characteristic of Java?
A) It is easy to copy Java source code from one machine to another.
B) The same Java class files will run on different operating systems without change.
C) It is easy to compile Java source code on different operating systems.
D) It is easy to change a Java program so that it will work on different operating systems.

Ans: B
Section Ref: Section 1.3 The Java Programming Language
Title: Which statement best describes the portability characteristic of Java?
Difficulty: Easy

22. When a Java application starts, what is the name of the method that is executed?
A) main
B) start
C) begin
D) Main

Answer: a
Section reference: 1.4 Becoming Familiar With Your Programming Environment
Title: When a Java application starts, what is the name of the method that is executed?
Difficulty: Easy

23. Text enclosed between this and the end of line is ignored by the compiler.
A) "
B) //
C) ()
D) ""

Answer: b
Section reference: 1.5 Analyzing Your First Program
Title: Text enclosed between this and the end of line is ignored by the compiler.
Difficulty: Easy

24. What is the name of the file declaring the class named `MyClass`?
A) `MyClass`

B) `myclass.java`
C) `MyClass.class`
D) `MyClass.java`

Answer: d
Section reference: 1.5 Analyzing Your First Program
Title: What is the name of the file declaring the class named MyClass?
Difficulty : Easy

25. In a console window, how do you compile the declaration of the class `MyClass`?
A) `javac MyClass.java`
B) `javac MyClass`
C) `java MyClass.java`
D) `java MyClass`

Answer: a
Section reference: 1.5 Analyzing Your First Program
Title: In a console window, how do you compile the declaration of the class MyClass?
Difficulty : Medium

26. In a console window, assuming that `MyClass` includes the `main` method, how do you run the program?
A) `java MyClass.class`
B) `javac MyClass`
C) `java MyClass`
D) `javac MyClass.java`

Answer: c
Section reference: 1.5 Analyzing Your First Program
Title: In a console window, how do you run a Java program?
Difficulty: Medium

27. A(n) ____ is a collection of code that has been programmed and translated by someone else, ready for use in your program.
A) method
B) class
C) parameter
D) library

Answer: d
Section reference: 1.5 Analyzing Your First Program
Title: A(n) ____ is a collection of code ...
Difficulty: Easy

28. Every Java program consists of one or more of these fundamental building blocks.
A) class
B) CPU
C) applet
D) parameter

Ans: A
Section Ref: Section 1.5 Analyzing Your First Program
Title: TB Every Java program consists of one or more of these fundamental building blocks.
Difficulty: Easy

29. What is the name of the file that contains the Java source code for the class `BankAccount`?
A) `BankAccount`
B) `BankAccount.java`
C) `BankAccount.class`
D) `BankAccount.txt`

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the name of the file that contains the Java source code for this class?
Difficulty: Easy

30. A _____ contains sequences of instructions to perform a particular task.
A) parameter
B) label
C) variable
D) method

Ans: D
Section Ref: Section 1.5 Analyzing Your First Program
Title: A _____ contains sequences of instructions to perform a particular task.
Difficulty: Easy

31. What term is used to refer to an instruction in a method?
A) statement
B) constant
C) comment
D) object

Ans: A
Section Ref: Section 1.5 Analyzing Your First Program
Title: What term is used to refer to an instruction in a method?
Difficulty: Easy

32. In Java, every statement must end with this symbol.
A) .
B))
C) !

D) `;`

Ans: D
Section Ref: Section 1.5 Analyzing Your First Program
Title: In Java, every statement must end with this symbol.
Difficulty: Easy

33. What term is used to refer to text in a program that helps human readers understand the program?
A) methods
B) comments
C) constants
D) statements

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: What term is used to refer to text in a program that helps human readers understand the program?
Difficulty: Easy

34. The Java compiler ignores any text between ____.
A) `(* and *)`
B) `/* and */`
C) `{* and *}`
D) `// and //`

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: The Java compiler ignores any text between ____.
Difficulty: Easy

35. What term is used to refer to a sequence of characters enclosed in quotation marks?
A) string
B) object
C) comment
D) variable

Ans: A
Section Ref: Section 1.5 Analyzing Your First Program
Title: What term is used to refer to a sequence of characters enclosed in quotation marks?
Difficulty: Easy

36. What entity belongs to a class and is manipulated in a program?
A) constant

B) package
C) object
D) comment

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: What entity belongs to a class and is manipulated in a program?
Difficulty: Easy

37. A method is called on what entity in the program?
A) constant
B) statement
C) comment
D) object

Ans: D
Section Ref: Section 1.5 Analyzing Your First Program
Title: A method is called on what entity in the program?
Difficulty: Easy

38. What term is used to refer to information passed in to a method on a call?
A) class
B) object
C) parameter
D) comment

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: What term is used to refer to information passed in to a method on a call?
Difficulty: Easy

39. Parameters to methods are enclosed by these symbols.
A) ()
B) ""
C) {}
D) //

Ans: A
Section Ref: Section 1.5 Analyzing Your First Program
Title: Parameters to methods are enclosed by these symbols.
Difficulty: Easy

40. A method may be called by specifying which 3 items in the specified order?
A) method name, parameters, object
B) object, parameters, method name
C) object, method name, parameters
D) class, parameters, method name

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: A method is called by specifying which 3 items in the specified order?
Difficulty: Easy

41. What is the syntax for calling the `println` method on the object `System.out`?
A) `println("Any message").System.out;`
B) `System.out("Any message").println;`
C) `System.out.println("Any message");`
D) `println(System.out, "Any message");`

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the syntax for calling the println method on the object System.out?
Difficulty: Easy

42. What is the object in the given method call?

```
System.out.println("Welcome");
```

A) `println`
B) `System.out`
C) `System.out.println`
D) `System`

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the object in the given method call?
Difficulty: Easy

43. What is the name of the method in the given method call?

```
System.out.println("Welcome");
```

A) `"Welcome"`
B) `System`
C) `println`
D) `out`

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the name of the method in the given method call?
Difficulty: Easy

44. What is the parameter in the given method call?

```
System.out.println("Welcome");
```

A) `out`
B) `println`
C) `"Welcome"`
D) `System`

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the parameter in the given method call?
Difficulty: Easy

45. What is the output of the following Java statement?

```
System.out.println("4 + 6");
```

A) `10`
B) `46`
C) `4`
D) `4 + 6`

Ans: D
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the output of the following Java statement?
Difficulty: Easy

46. What is the output of the following Java statement?

```
System.out.println(4 + 6);
```

A) `4 + 6`
B) `4`
C) `10`
D) `46`

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program

Title: What is the output of the following Java statement?
Difficulty: Easy

47. What type of program can you use to enter your Java program?
A) compiler
B) editor
C) spreadsheet
D) database

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: What type of program can you use to enter your Java program?
Difficulty: Easy

48. Which statement is true about a Java program?
A) Java forces the programmer to use a particular layout for readability.
B) Java requires that at most one statement appear on one line.
C) The first method that is executed in a Java program is called `Main`.
D) Java is case sensitive.

Ans: D
Section Ref: Section 1.5 Analyzing Your First Program
Title: Which statement is true about a Java program?
Difficulty: Easy

49. What is the name of the class declared in the file `MyClass.java`?
A) `MyClass`
B) MyClass.class
C) `MyClass.java`
D) `myclass`

Ans: A
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the name of the class declared in the file MyClass.java?
Difficulty: Easy

50. The Java compiler translates source code into what type of file?
A) document
B) object
C) class
D) text

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: The Java compiler translates source code into what type of file?
Difficulty: Easy

51. What is the name of the file created after a successful compilation of `MyClass.java`?
A) `MyClass.java`
B) `MyClass.class`
C) `myClass.class`
D) `MyClass`

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the name of the file created after a successful compilation of MyClass.java?
Difficulty: Easy

52. What does a class file contain?
A) Instructions for the specific CPU on the computer.
B) Instructions for the Java Virtual Machine.
C) The JVM instructions for all classes in the Java application.
D) The Java source code for a class.

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: What does a class file contain?
Difficulty: Easy

53. What is the file extension of a Java class file?
A) `.java`
B) There is no file extension.
C) `.class`
D) `.txt`

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is the file extension of a Java class file?
Difficulty: Easy

54. In a console window, what is the name of the command used to compile Java source code?
A) `javac`
B) `javadoc`

C) `compile`
D) `java`

Ans: A
Section Ref: Section 1.5 Analyzing Your First Program
Title: In a console window, what is the name of the command used to compile Java source code?
Difficulty: Easy

55. In a console window, what is the name of the command used to run a Java program?
A) `javadoc`
B) `javac`
C) `java`
D) `run`

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: In a console window, what is the name of the command used to run a Java program?
Difficulty: Easy

56. In a console window, how do you compile the declaration of the class `BankAccount`?
A) `java BankAccount`
B) `javac BankAccount`
C) `javac BankAccount.java`
D) `java BankAccount.java`

Ans: C
Section Ref: Section 1.5 Analyzing Your First Program
Title: In a console window, how do you compile the declaration of the class BankAccount?
Difficulty: Medium

57. In a console window, assuming that `BankAccountTester` includes the `main` method, how do you run the program?
A) `javac BankAccountTester`
B) `java BankAccountTester.class`
C) `javac BankAccountTester.java`
D) `java BankAccountTester`

Ans: D
Section Ref: Section 1.5 Analyzing Your First Program
Title: In a console window, how do you run a Java program?
Difficulty: Medium

58. What is a Java library?

A) A collection of Java source code that has been programmed and can be reused.
B) A collection of books on Java.
C) A collection of electronic documentation on Java.
D) A collection of code that has been programmed and translated by someone else, ready for you to use in your program.

Ans: D
Section Ref: Section 1.5 Analyzing Your First Program
Title: What is a Java library?
Difficulty: Easy

59. Which of the following statements is true about running a Java program?
A) The Java compiler executes your program.
B) The Java virtual machine loads the instructions for the program that you wrote, starts your program, and loads the necessary library files as they are required.
C) The java compiler signals the JVM to execute the program.
D) The javadoc utility runs the documentation of the program.

Ans: B
Section Ref: Section 1.5 Analyzing Your First Program
Title: Which of the following statements is true about running a Java program?
Difficulty: Easy

60. Suppose that a computer virus infects your computer and corrupts the files you were going to submit for your current homework assignment. What precaution could have saved you from a disastrously bad grade for this assignment?
A) Defragment the hard drive.
B) Purchase an anti-virus program to remove the virus from your computer.
C) Make regular backups of all your important files.
D) Purchase an extended warranty for your computer.

Ans: C
Section Ref: Programming Tip 1.1 Backup Copies
Title: What can prevent you from losing files that get corrupted?
Difficulty: Easy

61. Which one of the following statements regarding backup strategies for Java files is correct?
A) You should have multiple copies of your source files in different locations.
B) You should regularly print out your work so you can retype it in case of data loss.
C) You should regularly back up the Java virtual machine instructions to prevent loss of valuable work.
D) Your compiler automatically makes backups of your source files.

Answer: a
Section reference Programming Tip 1.1
Title: Which one of the following statements regarding backup strategies for Java files is correct?
Difficulty: Easy

62. Which statement is true about the following Java statement:

```
System.out.println("Hello!);
```

A) There is a run-time error.
B) There are no errors.
C) There is a compile-time error.
D) There are multiple errors.

Answer: c
Section reference: 1.6 Errors
Title: Which statement is true about the following Java statement?
Difficulty: Easy

63. Assuming the programmer wishes to display "Hello!" on the screen, which statement is true about the following Java statement:

```
System.out.println("Helo!");
```

A) There is a run-time error.
B) There are no errors.
C) There is a compile-time error.
D) There are multiple errors.

Answer: a
Section reference: 1.6 Errors
Title: Which statement is true about the following Java statement?
Difficulty: Easy

64. Assuming the programmer wishes to display "Hello!" on the screen, which statement is true about the following Java statement:

```
System.out.println("Hello!");
```

A) There is a run-time error.
B) There are no errors.
C) There is a compile-time error.
D) There are multiple errors.

Answer: b
Section reference: 1.6 Errors
Title: Which statement is true about the following Java statement?
Difficulty: Easy

65. Assuming the programmer wishes to display "Hello!" on the screen, which statement is true about the following Java statement:

```
System.out.printn("Helo!");
```

A) There is a run-time error.
B) There are no errors.
C) There is a compile-time error.
D) There are multiple errors.

Answer: d
Section reference: 1.6 Errors
Title: Which statement is true about the following Java statement?
Difficulty: Easy

66. Assume that the following Java statement is contained in the `main` method of the class named `Hello`:

```
System.out.printLine("Hello!");
```

What is the name of the file generated by the Java compiler?
A) `Hello.java`
B) Hello
C) No file is generated due to an error.
D) `Hello.class`

Answer: c
Section reference: 1.6 Errors
Title: What is the name of the file generated by the Java compiler?
Difficulty: Easy

67. What is defensive programming?
A) Writing a program that does not contain run-time errors.
B) Programming in a language that allows programmers to describe tasks at a higher conceptual level than machine code.
C) Structuring programs and development processes in such a way that an error in one part of the program does not trigger a disastrous response.
D) Writing a program that does not contain compile-time errors.

Answer: c
Section reference: 1.6 Errors
Title: What is defensive programming?
Difficulty: Easy

68. What is the term used to describe an error detected by the compiler that is a violation of the programming language rules?
A) logic error
B) compile-time error
C) run-time error
D) typo

Ans: B
Section Ref: Section 1.6 Errors
Title: Term describing an error violating the programming language rules.
Difficulty: Easy

69. What is another term used to describe an error detected by the compiler that is a violation of the programming language rules?
A) typo

B) logic error
C) semantic error
D) run-time error

Ans: C
Section Ref: Section 1.6 Errors
Title: Another term describing an error violating the programming language rules.
Difficulty: Easy

70. What is the term used to describe an error causing a program to take an action that the programmer did not intend?
A) typo
B) run-time error
C) compile-time error
D) syntax error

Ans: B
Section Ref: Section 1.6 Errors
Title: Term describing an error causing a program to take an action that the programmer did not intenD)
Difficulty: Easy

71. What is another term used to describe an error causing a program to take an action that the programmer did not intend?
A) syntax error
B) logic error
C) mistake
D) compile-time error

Ans: B
Section Ref: Section 1.6 Errors
Title: Another term describing an error causing a program to take an action that the programmer did not intenD)
Difficulty: Easy

72. Which statement is true about the following Java statement:

```
System.out.Println("Welcome!");
```

A) There are multiple errors.
B) There are no errors.
C) There is a run-time error.
D) There is a compile-time error.

Ans: D
Section Ref: Section 1.6 Errors
Title: Which statement is true about the following Java statement?

Difficulty: Easy

73. Assuming the programmer wishes to output the phrase "Hello!", which of the following is true about the following Java statement.

```
System.out.println("Welcme!");
```

A) There are multiple errors.
B) There is a run-time error.
C) There are no errors.
D) There is a compile-time error.

Ans: B
Section Ref: Section 1.6 Errors
Title: Which statement is true about the following Java statement?
Difficulty: Easy

74. Which statement is true about the following Java statement:

```
System.out.println("Welcome!");
```

A) There are no errors.
B) There is a run-time error.
C) There are multiple errors.
D) There is a compile-time error.

Ans: A
Section Ref: Section 1.6 Errors
Title: Which statement is true about the following Java statement?
Difficulty: Easy

75. Assuming the programmer wishes to output the phrase "Welcome!", which of the following is true about the following Java statement.

```
System.out.Println("Wlcome!");
```

A) There are no errors.
B) There is a compile-time error.
C) There is a run-time error.
D) There are multiple errors.

Ans: D
Section Ref: Section 1.6 Errors
Title: Which statement is true about the following Java statement?
Difficulty: Easy

76. Assume that the following Java statement is contained in the `main` method of the class named `Welcome`:

```
System.out.printLine("Welcome!");
```

What is the name of the file generated by the Java compiler?

A) `Welcome.class`
B) `Welcome.java`
C) No file is generated due to an error.
D) `Welcome`

Ans: C
Section Ref: Section 1.6 Errors
Title: What is the name of the file generated by the Java compiler?
Difficulty: Easy

77. Which statement is true about the compilation process?
A) The compiler will generate CPU specific instructions even if it detects an error.
B) The compiler will generate Java virtual machine instructions even if it detects an error.
C) The compiler will stop compiling when it finds the first error.
D) The compiler will continue compiling after it finds an error.

Ans: D
Section Ref: Section 1.6 Errors
Title: Which statement is true about the compilation process?
Difficulty: Easy

78. Who or what is responsible for inspecting and testing the program to guard against logic errors?
A) JVM
B) programmer
C) end-user
D) compiler

Ans: B
Section Ref: Section 1.6 Errors
Title: Who/what is responsible for ... guarding against logic errors?
Difficulty: Easy

79. Structuring programs and development processes in such a way that an error in one part of the program does not trigger a disastrous response is referred to as ____.
A) high-level programming
B) offensive programming
C) defensive programming

D) low-level programming

Ans: C
Section Ref: Section 1.6 Errors
Title: Structuring programs and development processes in such a way that an error in one part of the program does not trigger a disastrous response is referred to as ____.
Difficulty: Easy

80. What are special software tools called that let you trace through a program to find run-time errors?
A) compiler
B) debugger
C) CPU
D) virtual machine

Ans: B
Section Ref: Section 1.6 Errors
Title: What are special software tools called that let you trace through a program to find run-time errors?
Difficulty: Easy

81. A step sequence that contains precise instructions for what to do at each step and where to go next is _____.
A) unambiguous
B) terminating
C) executable
D) documented

Answer: a
Section reference: 1.7 Problem Solving: Algorithm Design
Title: A step sequence that contains precise instructions **...?**
Difficulty:

82. A step sequence that can be carried out in practice is _____.
A) unambiguous
B) terminating
C) executable
D) documented

Answer: c
Section reference: 1.7 Problem Solving: Algorithm Design
Title: A step sequence that can be carried out in practice ...?
Difficulty: Easy

83. A step sequence that eventually comes to an end is _____.
A) unambiguous
B) terminating
C) executable
D) documented

Answer: b
Section reference: 1.7 Problem Solving: Algorithm Design
Title: A step sequence that eventually comes to an end ...?
Difficulty: Easy

84. What is the purpose of the following algorithm?

```
somenum = 0
Repeat the following steps for 15 times
input variable1
  if variable1 < somenum then
  somenum = variable1
  end of if
end of repeat
print somenum
```

A) To search for a particular number among 15 numbers.
B) To find the largest among 15 numbers.
C) To print out the 15 numbers.
D) To find the smallest among 15 numbers.

Answer: d
Title: What is the purpose of the following algorithm?
Section reference: 1.7 Problem Solving: Algorithm Design
Difficulty: Easy

85. Evaluate the given pseudocode to calculate the efficiency of a vehicle's fuel consumption using the following test values:
The trip odometer reading (odometer) = 350
The amount to fill the gas tank (amount) = 12

```
input odometer
input amount
output odometer/amount
```

What is the final output?
A) 27.7
B) 29.2
C) 34.4
D) 32.3

Answer: b
Section reference: 1.7 Problem Solving: Algorithm Design
Title: What is output of this pseudocode with these test values?
Difficulty: Medium

86. Evaluate the given pseudocode to calculate the weighted score for a student:
The average homework score (homework) = 95
The weight of homework (hwWeight) = 35%
The average exam score (exams) = 87
The weight of exams(exWeight) = 65%

```
input homework
input hwWeight
input exams
input exWeight
output homework*hwWeight + exams*exWeight
```

What is the final output?
A) 89.20
B) 89.80
C) 87.80
d.92.20

Answer: b
Section reference: 1.7 Problem Solving: Algorithm Design
Title: What is output of this pseudocode with these test values?
Difficulty: Medium

87. Evaluate the given pseudocode to calculate the payment (pmt) with the following test values:
The total number of hours worked (working_hours) = 60
The rate paid for hourly work (rate) = 12

```
input working_hours
input rate
pmt = working_hours * rate
if working_hours > 40 then
  extra_hours = working_hours – 40
  extra_pmt = extra_hours * rate
  pmt = pmt + extra_pmt
end of if
output pmt
```

What is the final output?
A) 960
b.840
c.240
d.720

Answer: a
Section reference: 1.7 Problem Solving: Algorithm Design
Title: What is output of this pseudocode with these test values?
Difficulty: Hard

88. What term is used to refer to an informal description of a sequence of steps for solving a problem?
A) assembly language instructions
B) pseudocode
C) machine instructions for a specific CPU
D) Java virtual machine instructions

Ans: B
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: What term is used to refer to an informal description of a sequence of steps for solving a problem?
Difficulty: Easy

89. What term is used to refer to a sequence of steps for solving a problem that is unambiguous, executable, and terminating?
A) documentation
B) pseudoprogram
C) algorithm
D) comments

Ans: C
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: What term is used to refer to a sequence of steps for solving a problem that is unambiguous, executable, and terminating?
Difficulty: Easy

90. Which of the following options is true about algorithms?
A) Algorithms are described informally and can contain ambiguous steps.
B) Algorithms are written in a programming language.
C) Algorithms can replace the source code in programs.
D) You must create an algorithm for a problem before you can create a program to solve the problem.

Ans: D
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: Which of the following options is true about algorithms?
Difficulty: Easy

91. A step sequence is unambiguous when _____
A) it will eventually come to an end.
B) it is clearly documented.
C) it can be carried out in practice.
D) there are precise instructions for what to do at each step and where to go next.

Ans: D
Section Ref: Section 1.7 Problem Solving: Algorithm Design

Title: A step sequence is unambiguous when ...?
Difficulty: Easy

92. A step sequence is executable when _____
A) it will eventually come to an end.
B) it can be carried out in practice.
C) it is documented.
D) there are precise instructions for what to do at each step and where to go next.

Ans: B
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: A step sequence is executable when ...?
Difficulty: Easy

93. A step sequence is terminating when _____
A) there are precise instructions for what to do at each step and where to go next.
B) it will eventually come to an end.
C) it can be documented.
D) it can be carried out in practice.

Ans: B
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: A step sequence is terminating when ...?
Difficulty: Easy

94. What is the purpose of the following algorithm?

```
num = 0
Repeat the following steps for 10 times
input var1
  if var1 > num then
  num = var1
  end of if
end of repeat
print num
```

A) To print out the 10 numbers
B) To search for a particular number among 10 numbers
C) To find the largest among 10 numbers
D) To find the smallest among 10 numbers

Ans: C
Section Ref: Section 1.7 Problem Solving: Algorithm Design

Title: What is the purpose of the following algorithm?
Difficulty: Easy

95. Evaluate the given pseudocode to calculate the efficiency of a vehicle's fuel consumption using the following test values:
The trip odometer reading (odometer) = 300
The amount to fill the gas tank (amount) = 15

```
input odometer
input amount
output odometer/amount
```

What is the final output?

A) 15
B) 10
C) 30
D) 20

Ans: D
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: What is output of this pseudocode with these test values?
Difficulty: Medium

96. Evaluate the given pseudocode to calculate the weighted score for a student:
The average program score (program) = 92
The weight of programs (pgmWeight) = 40%
The average exam score (exams) = 85
The weight of exams(exWeight) = 60%

```
input program
input pgmWeight
input exams
input exWeight
output program*pgmWeight + exams*exWeight
```

What is the final output?

A) 89.20
B) 87.80
C) 89.80
D) 92.20

Ans: B
Section Ref: Section 1.7 Problem Solving: Algorithm Design

Title: What is output of this pseudocode with these test values?
Difficulty: Medium

97. Evaluate the given pseudocode to calculate the payment (pmt) with the following test values:
The total number of hours worked (working_hours) = 50
The rate paid for hourly work (rate) = 10

```
input working_hours
input rate
pmt = working_hours * rate
if working_hours > 40 then
  extra_hours = working_hours – 40
  extra_pmt = extra_hours * rate
  pmt = pmt + extra_pmt
end of if
output pmt
```

What is the final output?

A) 540
B) 580
C) 500
D) 600

Ans: D
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: What is output of this pseudocode with these test values?
Difficulty: Hard

98. What is the correct order of the steps in the program development process:
i. Develop and describe the algorithm.
ii. Translate the algorithm into Java.
iii. Understand the problem.
iv. Compile and test the program.
v. Test the algorithm with different inputs.

A) iii, i, ii, iv, v
B) i, ii, iv, v, iii
C) iii, i, v, ii, iv
D) i, iii, v, ii, iv

Ans: C
Section Ref: Section 1.7 Problem Solving: Algorithm Design
Title: What is the order of the steps in the program development process?
Difficulty: Easy