

**Exercise** 5.1,

**Computer Science or Information Technology**

Instructor: **Dawei Li, Ph.D.**

Day, Month, Year

Day

CSIT 501

Department of CSIT

Assessment

Module-5

Hidalgo, Rafael

What happens in the MinOfThree program if two or more of the values are equal? If exactly two of the values are equal, does it matter whether the equal values are lower or higher than the third?

The lowest value would still print, no matter how many numbers are equivalent. If all values are equal, all of the if statements will fail, and will resort to their else functions, which would still wind up printing the lowest value anyways.

**Exercise** 5.2,

What is wrong with the following code fragment? Rewrite it so that it produces correct output.

if (total == MAX)

if (total < sum)

System.out.println("total == MAX and < sum.");

else

System.out.println("total is not equal to MAX");

The else is associated with the if (total < sum), not the if (total == MAX). Therefore it is possible to print out "total is not equal to MAX", even when total is indeed equal to MAX. To fix this, we put braces in the appropriate places, as written below.

if (total == MAX)

{

if (total < sum)

System.out.println("total == MAX and < sum.");

}

else

System.out.println("total is not equal to MAX");

**Exercise** 5.3,

What is wrong with the following code fragment? Will this code compile if it is part of an otherwise valid program? Explain.

if (length = MIN\_LENGTH)

System.out.println("The length is minimal.");

This code will not compile if it is part of a valid program. The Reason being is that the assignment operator is used instead of the equality operator. Therefore, an error will occur.

**Exercise** 5.4,

What output is produced by the following code fragment?

float product = 100.05, data = 21.75;

if (product < data + 50)

System.out.println("One is printed!");

System.out.println("Two is printed!");

System.out.println("Three is printed!");

The output is the following.

Two is printed!

Three is printed!

**Exercise** 5.5,

What output is produced by the following code fragment?

int highest = 625, num1 = 25, num2 = 50, num3 = 25;

if (highest >= num1 \* num3)

{

if (num1 != num2)

System.out.println("One is printed!");

System.out.println("Two is printed!");

}

System.out.println("Three is printed!");

The output is the following.

One is printed!

Two is printed!

Three is printed!

**Exercise** 5.6,

Put the following list of strings in lexicographic order as if determined by the compareTo method of the String class. Consult the Unicode chart in Appendix C.

To help me solve this, I typed the corresponding Unicode Value of the first character of the string to the right of the relevant string.

"fred" 102

"Ethel" 69

"?-?-?-?" 63

"{([])}" 123

"Lucy" 76

"ricky" 114

"book" 98

"\*\*\*\*\*\*" 42

"12345" 49

" " 32

"HEPHALUMP" 72

"bookkeeper" 98

"6789" 54

“;+<?” 59

"^^^^^^^^^^" 94

"hephalump" 104

Once organized, the lexographic order as determined by the compareTo method is as follows.

" " 32

"\*\*\*\*\*\*" 42

"12345" 49

"6789" 54

“;+<?” 59

"?-?-?-?" 63

"Ethel" 69

"HEPHALUMP" 72

"Lucy" 76

"^^^^^^^^^^" 94

"book" 98

"bookkeeper" 98

"fred" 102

"hephalump" 104

"ricky" 114

"{([])}" 123

**Exercise** 5.7,

What output is produced by the following code fragment?

int max = 1000, min = 100;

while (max > min)

{

max -= min;

System.out.println(max);

}

The output is as follows.

900

800

700

600

500

400

300

200

100

**Exercise** 5.8,

What output is produced by the following code fragment?

int par1 = 1, par2 = 129;

while (par2 > par1)

{

if (par1 != 0)

System.out.println(par1);

par1 \*= 2;

}

The output is the following.

1

2

4

8

16

32

64

128

**Exercise** 5.11,

Write a code fragment that reads and prints integer values entered by a user until a particular sentinel value (stored in SENTINEL) is entered. Do not print the sentinel value.

**int** value;

Scanner scan = **new** Scanner(System.***in***);

System.***out***.print("Enter a non-zero integer (0 to quit): ");

value = scan.nextInt();

**while** (value != 0)

{

System.***out***.println("The number you just inputed is " + value);

System.***out***.print("Enter an integer (0 to quit): ");

value = scan.nextInt();

}

**Exercise** 5.14

Write a method called complexEquation that accepts three integer parameters and returns true, if the first parameter is not equal to the second and the product of the first two parameters is equal to the third, and false, otherwise.

**public** **static** **boolean** complexEquation(**int** a, **int** b, **int** c)

{

**if** ((a != b) && ((a\*b) == c))

**return** **true**;

**else**

**return** **false**;

}