**CSCI 1100 – Summer 2015**

**Laboratory Report 2**

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**Exercise 0.** (No marks)

**Part 1.**

public static void main(String args[]) {

int x = 1;

int y = 2;

int z = x + y;

System.out.println("x = " + x + " y = " + y + " z = " + z );

x = 0; y = 0;

System.out.println("x = " + x + " y = " + y + " z = " + z );

}

The first print statement: x = 1 y = 2 z = 3

The first print statement: x = 0 y = 0 z = 3

Z is still 3 because it hasn’t been assigned any other value.

**Exercise 1.**

4.0 \* 3 / 9 + 5 \* 2 ->11.33

6 / 2 + 4 / 6 ->3

5.0 / 2.0 + 6 / 5 ->3.7

13 / (2 + 3 ) / 2 ->1

2.0 / 4 \* 3 + 2 ->3.5

2.0 \* 3 / 4 \* 5 / 5 + 3.5 – 3 ->2.0

7.0 / 2 + 2 / 1 + 0.5 ->6.0

**Your answer: (no marks)**

Answers have been highlighted.

**Exercise 2.** Write a program to verify your answer to Exercise 1. Output the results using the format below:

**Solution (program):**

//This program will calculate and display the answer to each given question.  
public class AreTheNumbersRight{  
 public static void main(String[] args){  
 System.out.println("4.0 \* 3 / 9 + 5 \* 2 -> " + (4.0 \* 3 / 9 + 5 \* 2));  
 System.out.println("6 / 2 + 4 / 6 -> " + (6 / 2 + 4 / 6));  
 System.out.println("5.0 / 2.0 + 6 / 5 -> " + (5.0 / 2.0 + 6 /5));  
 System.out.println("13 / (2 + 3) / 2 -> " + (13 / (2 + 3) / 2));  
 System.out.println("2.0 / 4 \* 3 + 2 -> " + (2.0 / 4 \* 3 + 2));  
 System.out.println("2.0 \* 3 / 4 \* 5 / 5 + 3.5 – 3 -> " + (2.0 \* 3 / 4 \* 5 / 5 + 3.5 - 3));  
 System.out.println("7.0 / 2 + 2 / 1 + 0.5 -> " + (7.0 / 2 + 2 / 1 + 0.5));  
 }  
}

**Output:**

4.0 \* 3 / 9 + 5 \* 2 -> 11.333333333333334  
6 / 2 + 4 / 6 -> 3

5.0 / 2.0 + 6 / 5 -> 3.5  
13 / (2 + 3) / 2 -> 1  
2.0 / 4 \* 3 + 2 -> 3.5  
2.0 \* 3 / 4 \* 5 / 5 + 3.5 – 3 -> 2.0  
7.0 / 2 + 2 / 1 + 0.5 -> 6.0

**Exercise 3.**

**Solution (program):**

public class AverageCalculator{  
 public static void main(String[] args){  
   
 double a = 7, b = 8, c = 16, sum, average; //declares variables  
 sum = a + b + c; //Adds variables  
 average = sum/3.0; //Calculates average  
 System.out.println("a = " + a + "\nb = " + b + "\nc = " + c);  
 System.out.println("sum = " + sum);  
 System.out.println("average = " + average);  
 }  
}

**Output:**

a = 7.0

b = 8.0  
c = 16.0  
sum = 31.0  
average = 10.333333333333334

**Exercise 4.**

**Solution (program):**

public class Temp{  
 public static void main(String[] args){  
   
 double fahrenheit, celsius = 32;  
 //To convert celsius to fahrenheit, use the formula F = (C \* 9/5) + 32  
 fahrenheit = (celsius \* 9/5) +32;  
 System.out.println(celsius + " C = " + fahrenheit + " F");  
 //Celsius changed to 12 C  
 celsius = 12;  
 fahrenheit = (celsius \* 9/5) +32;  
 System.out.println(celsius + " C = " + fahrenheit + " F");  
 //celsius changed to 5  
 celsius = 25;  
 fahrenheit = (celsius \* 9/5) +32;  
 System.out.println(celsius + " C = " + fahrenheit + " F");  
 }  
}

**Output (You will have 3 outputs):**

32.0 C = 89.6 F  
12.0 C = 53.6 F  
25.0 C = 77.0 F

**Exercise 5.**

**Solution (program):**

public class CurrencyConverter{  
 public static void main(String[] args){  
 double CD = 10, eu, yen; //delcares variables  
 eu = CD \* 0.74; //This line and below line calculate eu and yen from CD  
 yen = CD \* 99.32;  
 //Displays result  
 System.out.println(CD + " Canadian dollars = " + eu + " Euros = " + yen + " Yen");  
   
 CD = 250;  
 eu = CD \* 0.74;  
 yen = CD \* 99.32;   
 System.out.println(CD + " Canadian dollars = " + eu + " Euros = " + yen + " Yen");  
   
 CD = 1100;  
 eu = CD \* 0.74;  
 yen = CD \* 99.32;   
 System.out.println(CD + " Canadian dollars = " + eu + " Euros = " + yen + " Yen");   
 }  
}

**Output (You will have 3 outputs):**

10.0 Canadian dollars = 7.4 Euros = 993.1999999999999 Yen  
250.0 Canadian dollars = 185.0 Euros = 24830.0 Yen  
1100.0 Canadian dollars = 814.0 Euros = 109251.99999999999 Yen

**Exercise 6.**

**Solution (program):**

public class TaxCalculator{  
 public static void main(String[] args){  
 double cost = 22.67, tax, amountPayable, USD;//Declares variables  
 tax = cost \* 0.15;//Calculates NS tax  
 amountPayable = cost + tax;//Calculates total price in CAD  
 USD = amountPayable \* 0.83; //Converts to USD  
 //Displays results  
 System.out.println("Cost = $" + cost +  
 "\nTax = $" + tax +  
 "\nAmount payable = "+ amountPayable + " $CA or " + USD + " $US");   
 }  
}

**Output:**

Cost = $22.67  
Tax = $3.4005  
Amount payable = 26.070500000000003 $CA or 21.638515 $US