Lab 3 External Documentation   
CPSC 1150 – W02

**Program** Validating triangle

**File Name:** ValidatingTriangle.java

**Purpose:** Check if 3 sides length can create a triangle or not.

**Input:** 3 sides length.

**Output:** Boolean; true if 3 sides length can create a triangle, otherwise false.

**Algorithm:**

BEGIN

1. Input 3 sides length.
2. Set validate = side1 + side2 > side3 && side1 + side3 > side2 && side2 + side3 > side1;
3. Print out the result.

END.

**Sample input and output:**

Enter the first edge length: 2

Enter the second edge length: 2

Enter the third edge length: 3

Can edge 2.000000, 2.000000, and 3.000000 form a triangle? true

Enter the first edge length: 1

Enter the second edge length: 1

Enter the third edge length: 2

Can edge 1.000000, 1.000000, and 2.000000 form a triangle? false

**Program** Check BMI

**File Name:** CheckBMI.java

**Purpose:** Check if user BMI is normal or not

**Input:** User weight and height

**Output:** Print if user is normal or not.

**Algorithm:**

BEGIN

1. Input user weight.
2. If weight is not positive then print out error and exit program.
3. Input user height.
4. If height is not positive then print out error and exit program.
5. Calculate BMI and print it out.
6. If BMI is under 20, then print “You are under weight.”
7. If BMI is between 20 and 25, then print “You are normal.”
8. If BMI is above 25, then print “You are overweight.”

END.

**Sample input and output:**

Enter your weight in kilogram: 58

Enter your height in meter: 1.78

Your BMI is 18.31

You are underweight.

Enter your weight in kilogram: 65

Enter your height in meter: 1.8

Your BMI is 20.06

Your BMI is normal.

Enter your weight in kilogram: 90

Enter your height in meter: 1.85

Your BMI is 26.30

You are overweight.

**Program** Sort three numbers

**File Name:** SortThreeNumbers.java

**Purpose:** Sort three numbers from smallest to largest

**Input:** 3 integers.

**Output:** Sorted 3 integers.

**Swap algorithm:**

BEGIN

1. Set temp = firstNumber
2. Set firstNumber = secondNumber
3. Set secondNumber = temp

END

**Algorithm:**

BEGIN

1. Input 3 integers.
2. If number2 < number1, then swap them. Number1 is smaller than number2 now.
3. If number3 < number1, then swap them. Number1 is the smallest number now.
4. If number3 < number2, then swap them. Number3 is the largest number now.
5. Print the result with format number1, number2, number3

END.

**Sample input and output:**

Enter three numbers: -9 10 2

Sorted numbers: -9, 2, 10

Enter three numbers: 9 8 7

Sorted numbers: 7, 8, 9

Enter three numbers: -3 -2 -1

Sorted numbers: -3, -2, -1