Core Java Exercises

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Section1 :Basics

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1. Write a Java program to print the result of the following operations.

a. -5 + 8 * 6
b. (55+9) % 9
c. 20 + -3*5 / 8
d. 5 + 15 / 3 * 2 - 8 % 3

***Expected Output*:**
43
1
19
13

2. Write a Java program to find the value of specified expression.

a) 101 + 0) / 3
b) 3.0e-6 * 10000000.1
c) true && true
d) false && true
e) (false && false) || (true && true)
f) (false || false) && (true && true)

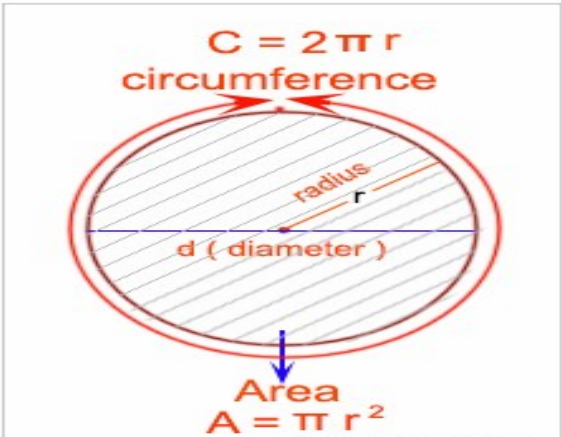
***Expected Output*:**
(101 + 0) / 3)-> 33
(3.0e-6 * 10000000.1)-> 30.0000003
(true && true)-> true
(false && true)-> false
((false && false) || (true && true))-> true
(false || false) && (true && true)-> false

3. Write a Java program to compute a specified formula

Specified Formula :
4.0 * (1 - (1.0/3) + (1.0/5) - (1.0/7) + (1.0/9) - (1.0/11))

Expected Output
2.9760461760461765

4. Write a Java program to print the area and perimeter of a circle.
Test Data:
Radius = 7.5
Expected Output
Perimeter is = 47.12388980384689
Area is = 176.71458676442586



5.Write a Java program to compute body mass index (BMI).
BMI: The BMI is defined as the body mass divided by the square of the body height, and is universally expressed in units of kg/m2, resulting from mass in kilograms and height in metres.

Test Data
Input weight in pounds: 452
Input height in inches: 72

Expected Output

Body Mass Index is 61.30159143458721

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Section 2: Conditionals

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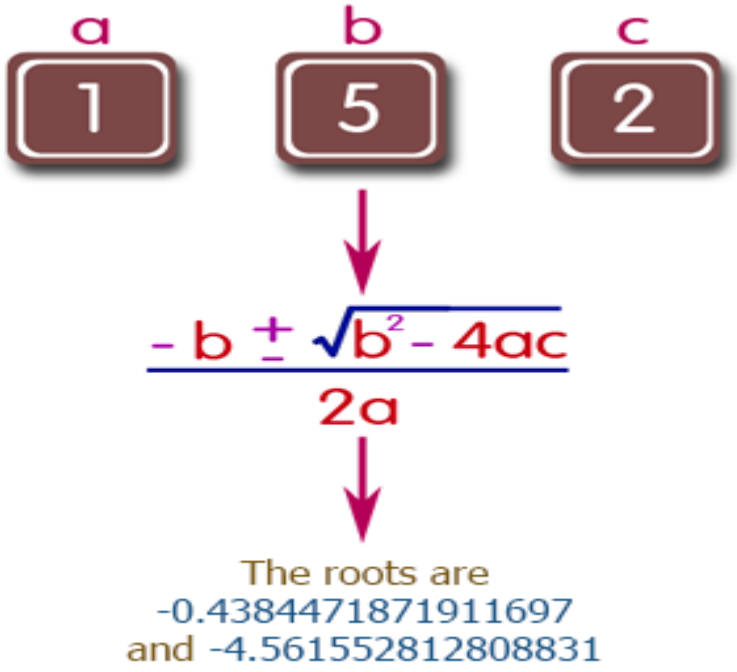
6. Write a Java program to solve quadratic equations (use if, else if and else)

Test Data

Input a: 1
Input b: 5
Input c: 1

Expected Output:

The roots are -0.20871215252208009 and -4.7912878474779195



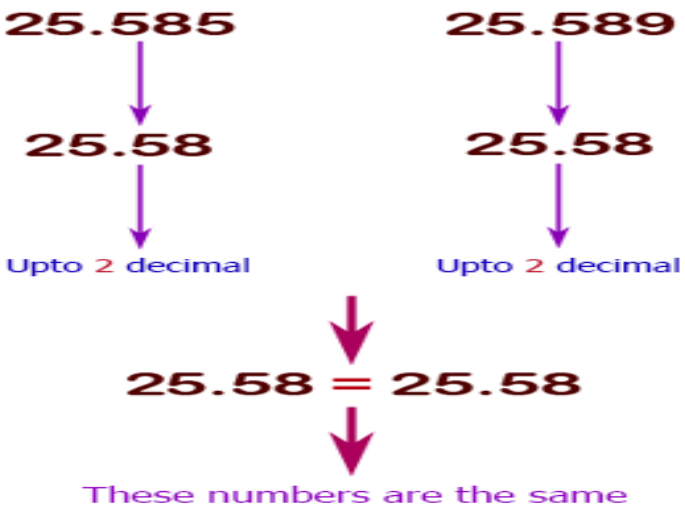
7.Write a Java program that accepts two floating point numbers and checks whether they are the same up to two decimal places.

Test Data

Input first floating point number:2.585
Input second floating point number: 2589

Expected Output:

Numbers are same



8. A school has following rules for grading system:

a. Below 25 - F

b. 25 to 45 - E

c. 45 to 50 - D

d. 50 to 60 - C

e. 60 to 80 - B

f. Above 80 - A

Ask user to enter marks and print the corresponding grade.

Test Data : 47

Expected Output: Grade D