Java SE Task, Week 1

if-else statements

Task 1

Write a program that prompts the user to input two numbers. Then the program should check whether the first number is greater, less or they are equal.

INPUT	OUTPUT
7 10	7 is less than 10
45.4 33.9	45.4 is greater than 33.9
0.54 0.54	Two numbers are equal

Task 2

Write a program that determines whether a number is lucky or not if sum of given six digit number's first three digits equals to the sum of the last three digits of that number. Below shown an example (values inputted by a user highlighted as bold).

INPUT	OUTPUT
123456	No
423045	Yes

Task 3

A tourist walked **A** km for a day. Before noon he walked **t1** hours and 20 km. After noon he walked **t2** hours. When the velocity of the tourist was greater before or after noon? Write a program that prompts the user to input the distance **A**, the amount of time **t1**, **t2** and output the answer to the above question.

INPUT	OUTPUT
31 5 3	Before
45 3 2	After

Task 4

Write a program that prompts the user to input **x** and **y**. Then the program should check will the graph of the function $y = 5x^2 - 7x + 2$ will pass through the inputted coordinates.

INPUT	OUTPUT
1 0	Yes
45.4 33.9	No
2 8	Yes

while, do-while, for loops

Task 5

Write a program that asks a user to input integers. The program should stop reading numbers when the user inputs 0. The program should output the sum of the odd elements among inputted integers.

INPUT	OUTPUT
3 4 0	3
-3 5 8 2 7 0	9

Task 6

Write a program that prompts the user to an integer **n**. Then the program should output the sum of the first **n** elements of the sequence: **1+ 1/2 + 1/3 + 1/4+...**

INPUT	OUTPUT
1	1
3	1.83333
15	3.31823

Task 7

Write a program that asks a user to input an integer **n** and **m**. The program should output product of the function $y = -2.4x^2 + 5x - 3$ with a step 0.5 from n to m.

INPUT	OUTPUT
-2 2	-2 -22.6
	-1.5 -15.9
	-1 -10.4
	-0.5 -6.1
	0 -3
	0.5 -1.1
	1 -0.4
	1.5 -0.9
	2 -2.6
0 3	0 -3
	0.5 -1.1
	1 -0.4
	1.5 -0.9
	2 -2.6
	2.5 -5.5
	3 -9.6

Task 8

Write a program that prompts the user to an integer **n**. Then the program should output the sum of the first n elements of the sequence: **1 – 1/3 + 1/5 – 1/7 + 1/9 – ...**

INPUT	**OUTPUT**
1	1
3	0.86667
100	0.782898

Task 9

Write a program that prompts the user to insert an integer. Then the program should output the sum of digits of the inputted integer.

INPUT	**OUTPUT**
72	9
10928	20