

ICT131 Seminar Session 1 - Exercises

1. Write a Java program that accepts 3 numbers using the input parameter and displays the sum and average of these 3 numbers.

2. The formula to convert temperature in Fahrenheit to centigrade is as follows:

$$c = \frac{5}{9} (f - 32)$$

Write a Java program that has input in Fahrenheit and displays the temperature in Centigrade.

3. Write a Java program that takes in 1 integer argument. It displays the next 3 consecutive integer numbers. (You are allowed to declare only one integer variable)
4. Write a Java program that takes in a 3 digit argument and displays the sum of each digit. E.g. if the number is 123, the sum displayed is 6.
5. Write a Java program that reads in a positive integer representing time in seconds and converts it to hour, minute and seconds. For example, if the input is 3670 seconds, it works out to be 1 hour, 1 minute and 10 seconds.
6. The area of a triangle with sides a, b, c can be determined by Heron's formula:

$$S = \sqrt{s(s-a)(s-b)(s-c)}$$

where $s = \frac{1}{2} (a + b + c)$ is the semi-perimeter, or half of the triangle's perimeter. Write a program that has 3 inputs representing the sides of a triangle and displays the area. Assume that input is valid, i.e. the sides are able to form a triangle. Look up the Math class for the square root function.

7. The formula to compute an accumulated amount C, based on compound interest for a loan L at the end of n years at i % interest per annum is as follows:

$$C = L \left(1 + \frac{i}{100}\right)^n$$

Write a Java program that has 3 input – loan amount, duration in years and interest rate in percent. The program displays the compounded amount based on the formula above.