

Tutorial Series N° 3

Ex 01

1. Write an algorithm to input three real numbers and display the maximum.
2. Write an algorithm to input three real numbers, then determine if their product is positive, negative, or zero, without calculation.

Ex 02

Write an algorithm to determine the quadrant (A, B, C, or D) of a point in the plane given the coordinates x and y of the point. The point is shown in Figure 1.

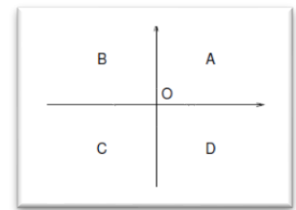


Figure 1

Ex 03

Write an algorithm to find the solutions to the inequality:

$$ax + b > 0$$

where a and b are real numbers entered by the user.

Ex 04

A point in the plane is characterised by its x and y coordinates.

Write an algorithm that inputs the coordinates of three (3) points A, B and C, then determines if the triangle ABC is right-angled (and if so at which point) or not.

Note: use the Pythagorean theorem.

Ex 05

Write an algorithm to input a positive non-zero integer N less than 1000. Calculate and display the following:

- The number itself, if N is a single digit number (e.g., $N = 5$ prints 5)
- The product of the digits, if N is a two-digit number (e.g., $N = 93$ prints 27)
- The sum of the digits, if N is a three-digit number (e.g., $N = 638$ prints 17)

Ex 06

1. Write an algorithm to display the month in letters and the number of its days based on the month number entered by the user.
2. Write an algorithm to display the season from the month number, given that the year is composed of four consecutive seasons, spring, summer, autumn, and winter. The first month of spring is March.