

Unit 3

Practice III

Algorithms

Goal of the practice

Become familiar with the writing of algorithms in pseudo code and the logic required to program. Handle the agreed nomenclature.

Management of the basic data types and their correct application.

Using advanced flow control cycles and actions.

Understanding expressions and properly apply the precedence of operators.

- 1) What are the differences and similarities between an identifier and a reserved word.
- 2) Create an algorithm to determine the largest of 3 numbers.
- 3) Create an algorithm to determine the largest of a series of numbers that are read from the keyboard. The user ends by entering -1.
- 4) Write an algorithm to determine the least of a series of numbers that are read from the keyboard. The user ends by entering -1. What differences do you find with respect to the previous algorithm?
- 5) Write an algorithm to print and count the multiples of 3 from 1 to a number that we enter by keyboard.
- 6) Write an algorithm that reads a series of real numbers and adds them, printing the result. The series ends when the user enters the number zero
- 7) Write an algorithm to find the average of a series of numbers that are read from the keyboard. Compare this exercise with the previous one. What are the differences and similarities?
- 8) Given a series of real numbers that are being read from the keyboard, determine the maximum value and the position of it.
- 9) Write an algorithm that requests the reading of a series of individual characters and count how many times the letter "a" is entered. The user ends by entering the "\$" symbol.
- 10) Develop an algorithm to count the number of students whose weight is between 50 and 60, between 61 and 80 and between 81 and 100. The weights are entered by keyboard and report the number of students in each category of weight. How does the algorithm change if I want to accumulate weight totals for each category?
- 11) Write an algorithm to determine if a number read by keyboard is prime.
- 12) Write an algorithm to print and count numbers that are multiples of 2 or 3 that are between 1 and 100.
- 13) Develop an algorithm to determine if a series of numbers that the user is entering is in increasing order or not.