Concepts related to Programming

Flow Diagrams

1) **Traffic lights**: a street is to be crossed while paying attention to the traffic lights. Define the corresponding flow diagram.

Number: 4
1
2
3
4

2) **Number List**: ask for a number between 1 and 20, and list the numbers from 1 to the number selected. If the number entered is greater than 20, the request will be repeated until a valid number is entered.

Number: 23

Result: 2.3

3) **Calculating 10%**: a number is asked for, to calculate 10% of that number.

Pseudocode

3) Write the pseudocode associated with the Flow Diagrams defined in the above item.

4) Write the pseudocode that calculates and classifies an individual's body mass index (BMI). Request the values of weight and height and obtain the BMI value by dividing the number of kilograms in weight into the squared number of meters in height (**BMI** = weight / height [2])

According to the value obtained:

- When BMI >= 30 – "Obese"
- When BMI >= 25 – "Overweight"
- When BMI >= 20 – "Regular"
- Otherwise "Below the regular index"

Important: for each case, indicate the variables used.

Algorithmic Instructions

Write algorithmic instructions to solve the following:

a) List the numbers from 1 to 20, by twos. When the number shown is an even number, the text appearing on the side will be "It is even". Otherwise, the text will read "It is not even".