Sheet #1: Problem Solving

- 1- Write an algorithm and draw a flowchart that will find and print the product of 3 numbers.
- 2- Draw a flowchart for a program that reads 10 numbers from the user and prints out their sum, and their product.
- 3- Draw a flowchart to find the sum of first 50 natural numbers.
- 4- Draw a flowchart that sums all the even numbers between 1 and 20
- 5- Draw a flowchart to find the largest of three numbers A, B, and C.
- 6- Draw a flowchart for computing factorial for number N.
- 7- Write down an algorithm and draw a flowchart to find and print the largest of N (N can be any number) numbers. Read numbers one by one. Verify your result by a trace table. (Assume N to be 5 and the following set to be the numbers {1 4 2 6 8 })
- 8- Write an algorithm and draw a flowchart to print the square of all numbers from 1 to10.
- 9- Write an algorithm and draw a flowchart to print the SUM of numbers from LOW to HIGH. Test with LOW=3 and HIGH=9.
- 10- Write an algorithm and draw a flowchart to print all numbers between LOW and HIGH that are divisible by NUMBER.
- 11- Write an algorithm and draw a flowchart to count and print all numbers from LOW to HIGH by steps of STEP. Test with LOW=0 and HIGH=100 and STEP=5.

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12- Write an algorithm and draw a flowchart to print the multiplication table for 6's. i.e.

----1 x 6 = 6 ----2 x 6 = 12 ... ----12 x 6 = 72

13- Draw flowchart to find if the triangle is isosceles, equilateral, or scalene.

14- Given a set of numbers, calculate their sum and the average value (mean)

$$x = \frac{1}{n} \sum_{i=1}^{n} x_i$$

Where n is the number of numbers in the set