Lecture 1 - Flowcharts

Flowchart for -

1. Average of three numbers:
You are given three numbers. You need to calculate and print their average value. Draw a flowchart for this process.

2. Check Number:
You are given a single number. You need to print one of the following outputs according to the number's nature.
Print 1, if the number is positive
Print -1, if it's negative
Print 0, if it's equal to 0
Draw a flowchart for this process.

3. Valid Triangle:
You are given 3 numbers. Each number represents the length of a line. You need to figure out whether these lines can form a valid triangle.
If a valid triangle can be formed, print "Yes", otherwise print "No".
Draw a flowchart for this process
A triangle is a valid triangle, If and only If, the sum of any two sides of a triangle is greater than the third side. For Example, let A, B and C are three sides of a triangle. Then, A + B > C, B + C > A and C + A > B

4. Find Product:
You are given a single non-negative integer, N. You need to calculate and print N factorial (N!)
N factorial is defined as the product of all integers from 1 to N (both inclusive)
Draw a flowchart for this process

5. Print Even Numbers:
You are given a single positive integer, N. You need to print all even integers that occur between 1 and N (both inclusive).
Draw a flowchart for this process

6. Check triangle
You are given the lengths of 3 sides of a valid triangle. You need to print any one of the following outputs depending on the triangle's nature.
Print 1, if the triangle is equilateral

Print 0, if it's isosceles
Print -1, if it's scalene
Draw a flowchart for this process.

7. Sum of evens
You are given a single positive integer, N. You need to calculate and print the sum of all even numbers till N(inclusive)
Draw a flowchart for this process

8. Find GCD
You are given two numbers. You need to calculate and print their greatest common divisor (GCD).
Draw a flowchart for this process.

9. All primes
You are given a single positive integer, N. You need to find and print whether N is Prime or not.
Draw a flowchart for this process

10. All fibonacci numbers
You are given a single non-negative integer, N. You need to print all numbers that:
(i) occur in the range 0 to N (both inclusive)
(ii) are a part of the fibonacci sequence
Draw a flowchart for this process
Note 1: The first two terms of the fibonacci sequence are 0 and 1.
Note 2: You don't need to submit the problem. Just attempt in your notebook and ask doubts if you need help.

11. Member of Fibonacci
You are given a single non-negative integer, N. You need to find out whether N is a part of the fibonacci sequence.
Print "Yes" if it is and "No" if it's not.
Draw a flowchart for this process
Note 1: The first two terms of the fibonacci sequence are 0 and 1.
Note 2: You don't need to submit the problem. Just attempt in your notebook and ask doubts if you need help.