Conditional Statements & Loops Exercises

1. Write a JavaScript conditional statement to find the sign of the product of three numbers. Display an alert box with the specified sign.

Sample numbers: 3, -7, 2

Output: The sign is -

2. Write a JavaScript program that computes the average marks of the following students. Then, this average is used to determine the corresponding grade.

Student Name	Marks
David	80
Vinoth	77
Divya	88
Ishitha	95
Thomas	68

The grades are computed as follows :	
Range	Grade
<60	F
<70	D
<80	С
<90	В
<100	A

3. Write a JavaScript program that iterates integers from 1 to 100. But for multiples of three print "Fizz" instead of the number and for multiples of five print "Buzz". For numbers multiples of both three and five print "FizzBuzz".

- 4. Write a JavaScript program to find the Armstrong numbers of 3 digits. Note: An Armstrong number of three digits is an integer such that the sum of the cubes of its digits is equal to the number itself. For example, 371 is an Armstrong number since 3**3 + 7**3 + 1**3 = 371.
- 5. Write a JS program to print pattern:

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- 6. According to Wikipedia a happy number is defined by the following process
 - "Starting with any positive integer, replace the number by the sum of the squares of its digits, and repeat the process until the number equals 1 (where it will stay), or it loops endlessly in a cycle which does not include 1. Those numbers for which this process ends in 1 are happy numbers, while those that do not end in 1 are unhappy numbers (or sad numbers)". Write a JavaScript program to find and print the first 5 happy numbers.
- 7. write a JS program that checks if two strings are anagrams of each other (contain the same characters but in a different order) using logical operators.
- 8. Implement a function that checks whether a given year is a leap year using a ternary operator.
- 9. Implement a function that determines the type of triangle based on the lengths of its sides (equilateral, isosceles, or scalene).
- 10. Write a JS program that finds the first non-repeating character in a string using a for loop.

- 11. Write a Js Program that calculates the sum of all prime numbers till 120 using a while loop.
- 12. Write a function that generates the Fibonacci sequence up to a specified number using a while loop.