**Problem Statement 1**

**Explain the usage of ternary operator with syntax and write a program to check whether the number is even or odd using the ternary operator.**

**Ans:** The ternary operator is a conditional operator in programming languages that takes three operands and is used as a shorthand for an if-else statement. Its syntax generally looks like this:

condition ? expression1 : expression2

Here's how it works:

The condition is evaluated first.

If the condition is true, expression1 is executed.

If the condition is false, expression2 is executed.

Now, let's write a program in a language like JavaScript to check whether a number is even or odd using the ternary operator:

// Program to check if a number is even or odd using the ternary operator

let number = 7; // Change this number to check different values

let result = number % 2 === 0 ? "Even" : "Odd";

console.log(`The number ${number} is ${result}.`);

In this example:

We assign a value to the number variable.

The expression number % 2 === 0 checks if number divided by 2 leaves a remainder of 0, which indicates an even number.

If the condition is true, it assigns the string "Even" to the result variable; otherwise, it assigns "Odd".

Finally, it prints out whether the number is even or odd.

**Problem Statement 2**

**Describe the usage of the comma operator in JavaScript and provide an example.**

**Ans:** The comma (,) operator evaluates each of its operands (from left to right) and returns the value of the last operand. This is commonly used to provide multiple updaters to a for loop's afterthought.

let x = 1;

x = (x++, x);

console.log(x);

// Expected output: 2

x = (2, 6);

console.log(x);

// Expected output: 3

**Problem Statement 3**

**Use a nested ternary operator to check that a number is positive, negative or zero. You have to print “positive” if the number is positive and similarly for negative and zero also**

**Ans :**

let a = 0 ;

let result = a === 0 ? "number is zero" : a < 0 ? "its negative number" : " Its positive number" ;

console.log(result);