TASK :1 Create an arrow function called square that takes a number as an argument and returns its square. Use the arrow function to calculate the square of a given number and display the result.

SOLUTION:

const square = (number) => number \* number;

const number = 5;

const result = square(number);

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

TASK 2: Create a JavaScript function called generateGreeting that takes a name as an argument and returns a personalized greeting message. Use this function to greet three different people.

SOLUTION:

function generategreeting(name) {

return `hello ${name}`

}

const name1 = "mohit";

const name2 = "jatin";

console.log(generategreeting(name1));

console.log(generategreeting(name2));

TASK3: Create an IIFE (Immediately Invoked Function Expression) that calculates the square of a number and immediately displays the result.

SOLUTION:

(function (number){

const square = number \* number;

console.log(square);

}

)(6)

TASK 4: Write a JavaScript function called calculateTax that takes an income as an argument and returns the amount of tax to be paid. Use a closure to handle different tax rates based on income ranges. Test the function with various incomes.

TASK5: Write a JavaScript function called factorial that calculates the factorial of a non-negative integer using recursion. Test the function with different inputs.\

SOLUTION:

function factorial(n) {

if (n === 0 || n === 1) {

return 1;

}

else {

return n \* factorial(n - 1);

}

}

console.log("Factorial of 0:", factorial(0));

console.log("Factorial of 1:", factorial(1));

console.log("Factorial of 5:", factorial(5));

TASK 6: Write a JavaScript function called curry that takes a function as an argument and returns a curried version of that function. The curried function should accept arguments one at a time and return a new function until all arguments are provided. Then, it should execute the original function with all arguments.Test the curry function with a function that adds two numbers.