1. Write TypeScript code to prompt the user to enter their age and store the entered value in a variable called userage. Then, log userAge to the console.

**Answer**

// Prompting the user to enter their age

const userAge: number = parseInt(prompt("Please enter your age:") || "0");

// Logging userAge to the console

console.log("User's age:", userAge);

1. **Calculate the Area of a Rectangle:**

Write TypeScript code to calculate the area of a rectangle given its length and width. Prompt the user to enter the length and width, calculate the area, and log it to the console.

const length: number = parseFloat(prompt("Enter the length of the rectangle:") || "0");

const width: number = parseFloat(prompt("Enter the width of the rectangle:") || "0");

const area: number = length \* width;

console.log("Area of the rectangle:", area);

1. **Check if a Number is Even or Odd:**

Write TypeScript code to prompt the user to enter a number and determine if it's even or odd. Log the result to the console.

const number: number = parseInt(prompt("Enter a number:") || "0");

if (number % 2 === 0) {

console.log("The number is even.");

} else {

console.log("The number is odd.");

}

1. Calculate the Factorial of a Number:

Write TypeScript code to calculate the factorial of a number. Prompt the user to enter a number, calculate its factorial, and log the result to the console.

const num: number = parseInt(prompt("Enter a number:") || "0");

let factorial: number = 1;

for (let i = 1; i <= num; i++) {

factorial \*= i;

}

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

**Here are two questions that involve using arrow functions in TypeScript:**

1. Calculate the Square of a Number using Arrow Function:

Write TypeScript code to prompt the user to enter a number and calculate the square of that number using an arrow function. Log the result to the console.

const userInput: number = parseFloat(prompt("Enter a number:") || "0");

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

console.log("Square of", userInput, ":", square(userInput));

1. Filter Even Numbers from an Array using Arrow Function:

Write TypeScript code to create an array of numbers, then use an arrow function to filter out the even numbers from that array. Log the resulting array to the console.

const numbers: number[] = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];

const evenNumbers: number[] = numbers.filter(num => num % 2 === 0);

console.log("Even Numbers:", evenNumbers);