

## 1. Write a program to find whether a given year is a leap year or not

```
function isLeapYear(year) {  
  if ((year % 4 === 0 && year % 100 !== 0) || (year % 400 === 0)) {  
    return true;  
  } else {  
    return false;  
  }  
}
```

```
const year = 2024;  
if (isLeapYear(year)) {  
  console.log(year + " is a leap year.");  
} else {  
  console.log(year + " is not a leap year.");  
}
```

## 2. Write a JavaScript program to convert temperatures to and from Celsius, Fahrenheit.

[ Formula :  $c/5 = (f-32)/9$  [ where c = temperature in Celsius and f = temperature in Fahrenheit ]

**Expected Output :**

**60°C is 140 °F**

**45°F is 7.222222222222222°C**

```
function celsiusToFahrenheit(celsius) {  
  // Formula: (celsius * 9/5) + 32  
  let fahrenheit = (celsius * 9 / 5) + 32;  
  return fahrenheit;  
}
```

```
function fahrenheitToCelsius(fahrenheit) {  
  // Formula: (fahrenheit - 32) * 5/9  
  let celsius = (fahrenheit - 32) * 5 / 9;  
  return celsius;  
}
```

```
}
```

```
let celsiusTemp = 60;  
let fahrenheitTemp = celsiusToFahrenheit(celsiusTemp);  
console.log(`${celsiusTemp}°C is ${fahrenheitTemp}°F`);  
  
let fahrenheitTemp2 = 45;  
let celsiusTemp2 = fahrenheitToCelsius(fahrenheitTemp2);  
console.log(`${fahrenheitTemp2}°F is ${celsiusTemp2}°C`);
```

**3. Write a program to find the factorial of a number.**

```
function factorial(n) {  
  if (n < 0) {  
    return -1; // Factorial of a negative number is not defined  
  } else if (n === 0 || n === 1) {  
    return 1; // Factorial of 0 or 1 is 1  
  } else {  
    let result = 1;  
    for (let i = n; i > 1; i--) {  
      result *= i;  
    }  
    return result;  
  }  
}
```

```
const number = 5;  
const result = factorial(number);  
console.log(`The factorial of ${number} is ${result}`);
```