

6.Functions

Q1. What are functions in JavaScript? Explain the syntax for declaring and calling a function.

A function in JavaScript is a block of code that performs a specific task. Instead of writing the same code again and again, we can place it inside a function and call it whenever needed. This makes programs reusable and easy to manage.

Syntax:

```
function functionName(parameters) {  
    // code to execute  
}  
  
functionName(); // calling the function
```

Q2. What is the difference between a function declaration and a function expression?

Function Declaration:

Defined using the function keyword with a name. It can be called before or after its declaration because of hoisting.

```
function greet() {  
    console.log("Hello!");  
}
```

Function Expression:

Stored in a variable. It cannot be called before it is defined.

```
let sayHello = function() {  
    console.log("Hi there!");  
};
```

Function expressions are useful when functions are used as values or passed to other functions.

Q3. Discuss the concept of parameters and return values in functions.

Parameters are values that are passed into a function when it is called. They act like input for the function. A function can also return a value using the return keyword.

Example:

```
function add(a, b) { // a and b are parameters
  return a + b;      // returns the result
}
```

```
let result = add(5, 7);
```

```
console.log(result); // 12
```

Parameters help functions work with different values, and return values give output back to the program.