Certainly! Below is the theory for functions and modules in JavaScript, suitable for a Word document:

## Functions in JavaScript:

Functions in JavaScript are blocks of reusable code designed to perform a specific task. They play a crucial role in organizing and modularizing code, enhancing readability, maintainability, and reusability.

### Function Declaration:

A function declaration defines a named function with the function keyword followed by the function name and a pair of parentheses containing optional parameters, followed by a block of code enclosed in curly braces.

function greet(name) {

 return `Hello, ${name}!`;

}

### Function Expression:

A function expression defines a function as part of an expression, typically by assigning it to a variable. It doesn't require a function name and can be anonymous.

const greet = function(name) {

 return `Hello, ${name}!`;

};

### Arrow Function:

Arrow functions provide a concise syntax for defining functions, especially for short, one-line functions. They use the arrow (=>) syntax and can be anonymous.

const greet = (name) => {

 return `Hello, ${name}!`;

};

### Function Invocation:

To execute a function, you call it by its name followed by parentheses, optionally passing arguments inside the parentheses.

const message = greet("John");

console.log(message); // Output: Hello, John!

## Modules in JavaScript:

Modules in JavaScript are independent units of code that encapsulate functionality. They help organize code into smaller, manageable pieces and promote reusability across applications.

### Module Export:

In JavaScript, you can export functions, variables, or objects from a module to make them accessible to other modules. This is done using the export keyword.

javascript

Copy code

// greet.js

export function greet(name) {

 return `Hello, ${name}!`;

}

### Module Import:

To use functionality exported from a module, you import it into another module using the import keyword followed by the exported item's name and the path to the module file.

// main.js

import { greet } from './greet.js';

const message = greet("John");

console.log(message); // Output: Hello, John!