PART 1

LESSON 6

✓ Functions

1. Declaring Functions

Javascript function is a special kind of object that is callable using ( ) that can return value.

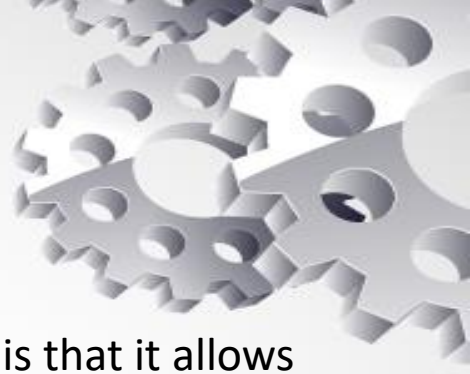
1. Function Expression
A function can be declared using the function keyword and assigning it to a variable. In this case, the variable name becomes the function name and is callable.

Syntax

```
// declaring a function
let functionName = function(parameters) {
    ...
    return something;
}

// calling a function
functionName(someParameters);
```

1. Declaring Functions



2. Arrow Function Syntax

This is the current preferred way to create a function. The advantage of using arrow function syntax is that it allows for creating more concise and readable code.

- **Syntax**

```
// declaring a function
functionName = (parameters)=>{
    ...
    return something;
}

// calling a function
functionName(someParameters);
```

1. The part of the declaration that looks like this `(parameters)=>{...}` is known as nameless function.
2. When a *nameless function* is assigned to a variable, the variable name becomes the function name.

1. Declaring Functions

Example

```
//
// This is a single-line expression. There is no need to use return when returning a value.
let add = (a, b) => a + b;
add(2, 3); // This will return 5;

// This is a single-line expression. There is no need to use return when returning an object when wrapped in parenthesis.
let op = (a, b) => ({op1:a,op2:b})


// This is a multi-line expression. Return is required.
let diff = (a, b) => {
    if (a > b) return a - b;
    return b - a;
};
diff(2, 3); // This will return 1;
```

Note: Although arrow function is preferred, not all functions can be expressed using arrow function. For example, arrow function cannot be used for creating object methods.

2. Auto Semi-Colon Insertion Problems

- The Javascript language requires an expression to be terminated by semi-colon but the Javascript compiler historically does not enforce it.
- This is because the compiler implicitly insert ; to the end of the expression using its own algorithm.
- This is called auto semi-colon insertion. This lead to major quirks in the language