16/02/2023

Day 8

Functions :-

With functions we can take several lines of code that performs a set of related action and then group them together under a single label. Then when we need to run the code that we've saved, we just invoke or call the function.

We can run the code as many times as we want.

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

myFunc();
```

```
function addTwoNums(a,b){          ——— Function with parameters
    var c = a+b;
    console.log(c);
}
addTwoNums(2,4);
addTwoNums(5,8);
```

Array :-

Array Literal Syntax []

```
var skills = ["HTML", "CSS", "Python", "C++"];

console.log(skills[0]);
    => HTML
```

- Values in an array are all part of a group.
- Values are set in specific sequence.
- Values can be accessed with their index numbers.

Objects :-

Using objects we can short our variable names and getting javascript to understand that all those variables are related.

Objects can be described as collections of related properties where each property is represented as a key value pair. This means that what is normally a variable name becomes a property key and what is normally a variable's value becomes the property value of the object.

Object can also be built by listing the key value pair inside of the object literal, which specifies them as comma delimited properties.

```
var user = { };      // create an object
```

Arrays are objects:-

In javascript, arrays are objects. That means that arrays also have some built-in properties and method.

One of the most commonly used built-in methods on arrays are the push() and the pop() method.

To add new items to an arrays we can use the push() method.

```
var fruits = [];
fruits.push("apple");     // ['apple']
fruits.push("pear");      // ['apple', 'pear']
```

To remove the last item from an array, we can use the pop() method.

```
fruits.pop();
console.log(fruits);  // ['apple']
```

We can call the arrayBuilder() function. for example like this :

```
arrayBuilder('apple', 'pear', 'plum');
```

Math object :-

Rounding methods :-

- math.ceil() - rounds up to closest integer
- Math.floor() - rounds down to the closest integ
- Math.round() - round up to closest integer.
- Math.trunc() - trim this decimal, leaving only the integer

Random method - A part of the Math object that can generate a number between 0 and 0.99

```
Math.random();
```

Generate random no. between 0 and 10

```
var decimal = Math.random() * 10;
var rounded = Math.ceil(decimal);
console.log(rounded);
```

* String :-

```
var greet = "Hello, ";
var place = "world"
```

All strings have at their disposal several built-in properties, but there is a single property that is really useful : the length property

```
greet.length;
```

The concat() method joins two string

Some methods - indexOf()
lastIndexOf()
split()
toUpperCase()
toLowerCase()

* TypeOf :-

javascript operator that evaluates a parameter and returns the data type as a string.

```
var test = typeOf (10)      => number
var test = typeOf (true)    => Boolean
```

* Bugs and errors :

Some common error types -

1) Syntax error
2) reference error
3) type error.
4) Range error

Error can be defined as a faulty piece of code that prevents the program from further execution, an error gets thrown and the program stops.

* Try catch block

1) try and catch - If a piece of code throws an error, it can get wrapped inside a try block. Then we can catch the error with catch block and use it to do something.

e.g
```
try {
    console.log(ctd)
} catch (err) {
    //do something here...
}
console.log("This line now runs");
```

2) Throw - Using the throw keyword, we can force an error to be thrown from the try block to the catch block. e.g
```
try {
    throw new Error();
} catch (err) {
    console.log(err);
}
console.log("This line now runs");
```

Undefined, null and empty values

1) Null - Represents intentional absence of object value.

2) Undefined data type can only hold one value undefined

All functions return undefined by default unless it's been decided to return a specific value instead.

When a variable is declared without an assignment undefined value appears.

3) empty - The string without any characters inside of it and it can be built in a few ways such as with single quotes or double quotes with no characters in between them.