Strings

Strings

- The string is a group of characters
- It can include a-z, A-z, 0-9, and also all special characters like #,@,$, etc
- Each character has an index, Starting from 0 to the length of the string.

Need of Strings

- Lots of information we stored, it actually stored as a string
- For Example, The name of the product, Pincode, and mobile number also, Since we will not perform any mathematical operation on mobile numbers that's why we considered it as a string.

How to declare a String?

```
String s = "Masai School"

There is a total of 12 characters in this string.
```

Code 1: Declare a string variable and print it.

```
var name = "Masai";
console.log(name);

console.log(name[0]);   // M
console.log(name[1]);   // a
console.log(name[2]);   // s
console.log(name[3]);   // a
console.log(name[4]);   // i
console.log(name[5]);   // undefined
```

Code 2: Find the length of the String.

```
var name = "Jantar Mantar";
console.log(name.length);         // 13
```

Real-world use of String

Code 3: Find whether the user enters the valid length password of at least 6 character.

```
var password = "vb";

if(password.length < 6)
{
  console.log("Invalid : Your Password must be atleast 6 characters long");
}
else
{
  console.log("Valid Password");
}
```

Loop in Strings

Code 4: Run loop and print each character of String.

```
var name = "Masai School";
for(var i = 0; i<name.length; i++)
{
  console.log(name[i]);
}
```

Code 5: Run loop on the string and add each character to the third variable and print that variable.

```
var name = "Masai School";
var bag = "";
for(var i = 0; i<name.length; i++)
{
  bag = bag + name[i];
}
console.log(bag);
```

Arrays vs Strings

- We can use an array to store the sequence of characters.

Code 6: Store “Masai” in String and array.

```
var name1 = "Masai";
console.log(name1);
console.log(name1[0]);

var name2 = ["M","a","s","a","i"];
console.log(name2);
console.log(name2[0]);
```

Strings are immutable

- Once the string is declared and initialized, it cannot be updated later.

Code 7: Update Character in String

```
var name = "Masai";
name[0] = "N";
console.log(name);    // Masai
```

- **Let’s use an array to update the string**

```
```

Code 8: Update Character in array

```
var name = ["M","a","s","a","i"];
name[0] = "N";
console.log(name);   // Nasai
```

We can conclude that strings are immutable. Once it is created, it cannot be updated later but in the array it is possible.

Update Strings

- We already know that we can not update the string but we can update the array.

```

```

Code 9: Update String using array and third variable. [First Method]

```
**I Way**

var name = "Masai";
var name2 = []

for(var i=0; i<name.length; i++)
{
  name2.push(name[i]);
}

name2[0] = "N";
var bag = "";
for(var i=0; i<name2.length; i++)
{
  bag = bag + name2[i];
}
console.log(bag);
```

Code 10: Update String using array and third variable. [Second Method]

```
**II Way**

var name = "Masai";
var output = "";

for(var i=0; i<name.length; i++)
{
  if(i==0)
  {
    output = output + "N";
  }
  else
  {
    output = output + name[i];
  }
}

console.log(output);     // Nasai
```

Remove char in Strings

- loop in the given string and don’t add that character which you want to remove otherwise add all.

Code 11: Remove a char from String

```
var name = "Masai";
var output = "";

for(var i=0; i<name.length; i++)
{
  if(name[i] != "s")
  {
    output = output + name[i];
  }
}
console.log(output);
```

Problems in Strings

Code 12: Count the names starting with N or n

```
var names = [”Nobita”, “Naruto”, “Noddy”, “Shinchan”, “Oswald”];
var count = 0;

for(var i=0; i<names.length; i++)
{
  var name = names[i];
  if(name[0] == "N" || name[0] == "n")
  {
    count++;
  }
}
console.log(count);
```

Code 13: Count the names which contain A in them.

```
var names = [”Nobita”, “Naruto”, “Noddy”, “Shinchan”, “Oswald”];
var count = 0;

for(var i=0; i<names.length; i++)
{
  var name = names[i];
  for(var j = 0; j<name.length; j++)
  {
    if(name[j]=='a' || name[j]=='A')
    {
      count++;
      break;
    }
  }
}
console.log(count);


Student Task
```