Strings

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What we know at this point?

- Strings are series of characters within single or double quotes which denote the start and the end of a string
- They could be concatenated with the “+” operator
- They could be assigned to a variable
- Strings can be written using the console.log()

What you didn't know?

- Strings are Immutable – you cannot modify the value of a String. The only way to change a string is to create a new one.

```
let firstName = "Slavi";
let other = firstName; // other = Slavi

firstName = firstName + "!"; // brand new string is created, the original stays intact

console.log(firstName); // points to the new string
console.log(other); // holds the original value
// ------------------------------------------------

let text = "Bahur";

text.toUpperCase(); // statement that makes all the letters upper case
console.log(text) // Bahur - still the original value
```

What you didn't know?

- Template strings (ES6 feature) – Strings on Steroids
  - Create template strings using the `` notation
  - You can embed expressions, multiline text and special characters

```
let master = "Shakira";

let x = `I said: "Go ahead, teach me, ${master}!"`;

let y = `
        червена роза, синя теменуга
        вчера видях мъжа ти с друга

                неизвестен автор`
```

```
I said: "Go ahead, teach me, Shakira!"

        червена роза, синя теменуга
        вчера видях мъжа ти с друга

                неизвестен автор
```

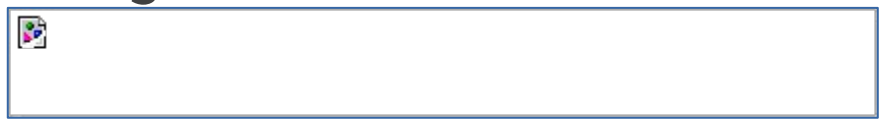
Character Access

- Every character in a string has its own index
- The indexes starts from 0 for the first character, 1 for the second and so on, all the way to the N-1 for the Nth character

Z	a	p	h	o	d
0	1	2	3	4	5

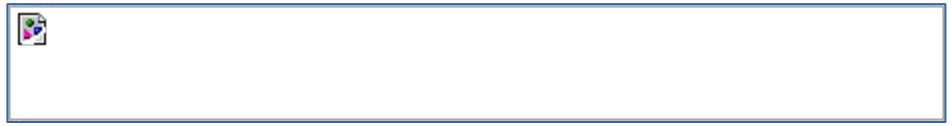
Character Access

- We can use **.chartAt()** to access the individual character of a string



- We can extract the element using the **[index]** syntax

- You can get the length of the string using its **length** property
  We can't modify the length :(



Built-in functions on Strings

- String.**indexOf()** -> returns the index of the first occurrence of the specified value
- String.**lastIndexOf()** -> returns the index of the last occurrence of the specified value

```
let text = "seno, seno, seno, igla, seno, seno";
console.log(text.indexOf("igla")); //18
console.log(text.lastIndexOf("seno")); //30
```

- Note that you can pass second argument to these functions, specifying the start index

Built-in functions on Strings

- String.**includes()** -> determines whether one string may be found within another string. Returns true or false.

```
let text = "For New Year's eve, I'll be home."
console.log(text.includes("home")); // true
```

- String.**trim()** -> removes whitespace from both ends of a string.

```
let username = " slavozavar    ";
console.log(username.trim()); // slavozavar without the spaces
```

Built-in functions on Strings

- String.**split()** -> Splits the string into smaller chunks. Returns an array elements that are these chunks

```
let text = "For New Year's eve, I'll be home."
const words = text.split(" "); //[ 'For','New', "Year's", 'eve,', "I'll",   'be', 'home.' ]
```

- String.**toUpperCase()** -> returns the string value converted to uppercase
- String.**toLowerCase()** -> returns the string value converted to lowercase

```
let text = "Slavozar Vargulev";
const lower = text.toLowerCase(); //  slavozar vargulev
const upper = text.toUpperCase(); // SLAVOZAR VARGULEV
```

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Built-in functions on Strings

- String.**slice()** -> extracts a section of a string and returns it as a new string

```
let text = "Slavozar Vargulev";
console.log(text.slice(9)) // -> "Vargulev" from index 9 till the end
console.log(text.slice(0,2)) // -> "Sl"
```

- String.**substring()** -> returns the part of the string between the start and end indexes, or to the end of the string.

```
let text = "Slavozar Vargulev";
console.log(text.substring(9)) // -> "Vargulev" from index 9 till the end
console.log(text.substring(0,2)) // -> "Sl"
```

- They look the same, [but here is the difference]

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Built-in functions on Strings

- Are there more built-in functions?
  - String.replace()
  - String.concat()
  - String.startsWith()
  - String.repeat()
  - And many more ...