

Loops in JS

Loops are used to execute a piece of code again & again

for Loop

```
for (let i = 1; i <= 5; i++) {  
    console.log("apna college");  
}
```

Loops in JS

Infinite Loop : A Loop that never ends

Apna College

Loops in JS

while Loop

```
while (condition) {  
    // do some work  
}
```

Loops in JS

do-while Loop

The Statements inside the do..while loop is going to execute 1 time even if the condition is false, because condition is checked afterwards that's why...

```
do {  
  
    // do some work  
  
} while (condition);
```

Loops in JS

for-of Loop

For .. of loop is mostly used with an Array and a String where the val variable traverse through each element of the array or string.(same as for each loop).

```
for (let val of strVar) {
```

```
    //do some work
```

```
}
```

for..of loop is used as following to traverse each of the element of an array or a string:

```
let str = "Hirtik Malvi";  
let sizeOfStr = 0;  
for(let value of str){  
    console.log(value);  
    sizeOfStr++;  
}  
console.log(sizeOfStr);
```

Loops in JS

for-in Loop

```
for (let key in objVar) {
```

```
    //do some work
```

```
}
```

For... in loop is written as following for OBJECT where it returns keys of the object and we can get values from that keys as following:

```
const studentInfo = {
  studentName : "Hirtik",
  enrollNo : 30,
  division : 'G',
  branch : "Computer Engineering"
};

for(let key in studentInfo){
  console.log(key, " ", studentInfo[key]);
}
```

Let's Practice

Qs1. Print all even numbers from 0 to 100.

Apna College

Let's Practice

Qs2.

Create a game where you start with any random game number. Ask the user to keep guessing the game number until the user enters correct value.

Strings in JS

String is a sequence of characters used to represent text

Create String

```
let str = "Apna College";
```

String Length

```
str.length
```

String Indices

```
str[0], str[1], str[2]
```

Template Literals in JS

A way to have embedded expressions in strings

--> In short, it is another way to represent string. means we can write string using `` (under the esc key) and one can use " ", ' ' also.

--> But there is special use of it. when we have to display something as `console.log("My name is", str, "and my age is", age)`; we have to use variable names in between frequently. So here template literal is used.

``this is a template literal``

String Interpolation

To create strings by doing substitution of placeholders

``string text ${expression} string text``

--> We can display `console.log("My name is", str, "and my age is", age)`; in other way using template literal and String Interpolation as:
`let studentInfo = "My name is ${str} and my age is ${age}";` and then `console.log(studentInfo)`;
Above and this both will print same but string interpolation make it bit easy.

String Methods in JS

These are built-in functions to manipulate a string

String is Immutable means it cannot be Unchanged.

Whenever string methods like toUpperCase(), toLowerCase() are used it just gives new string but it does not change the original string.

- **str.toUpperCase()**
- **str.toLowerCase()**
- **str.trim()** // removes whitespaces

String Methods in JS

- **str.slice(start, end?)** // returns part of string

- **str1.concat(str2)** // joins str2 with str1

other way to concatenate is str1 + str2;

- **str.replace(searchVal, newVal)**

- **str.charAt(idx)**

Same as str1[0], str1[4]

```
let str1 = "Hirtik";  
let str2 = "Malvi";  
let str3 = "hiRTik maLvi";
```

```
console.log(str3.toUpperCase());  
console.log(str3.toLowerCase());
```

```
// let newStr = str.trim();  
// console.log(str1.concat(str2));  
// console.log(str1.replace('Hi','Ka'));  
// console.log(str1.charAt(0)); //Same as str1[0]
```

Let's Practice

Qs1. Prompt the user to enter their full name. Generate a username for them based on the input. Start username with @, followed by their full name and ending with the fullname length.

eg: user name = “shradhakhapra” , username should be “@shradhakhapra13”

```
let enteredName = prompt("Enter your full name without space: ");
```

```
let userName = "@" + enteredName + enteredName.length;
```

```
console.log("Username is:", userName);
```