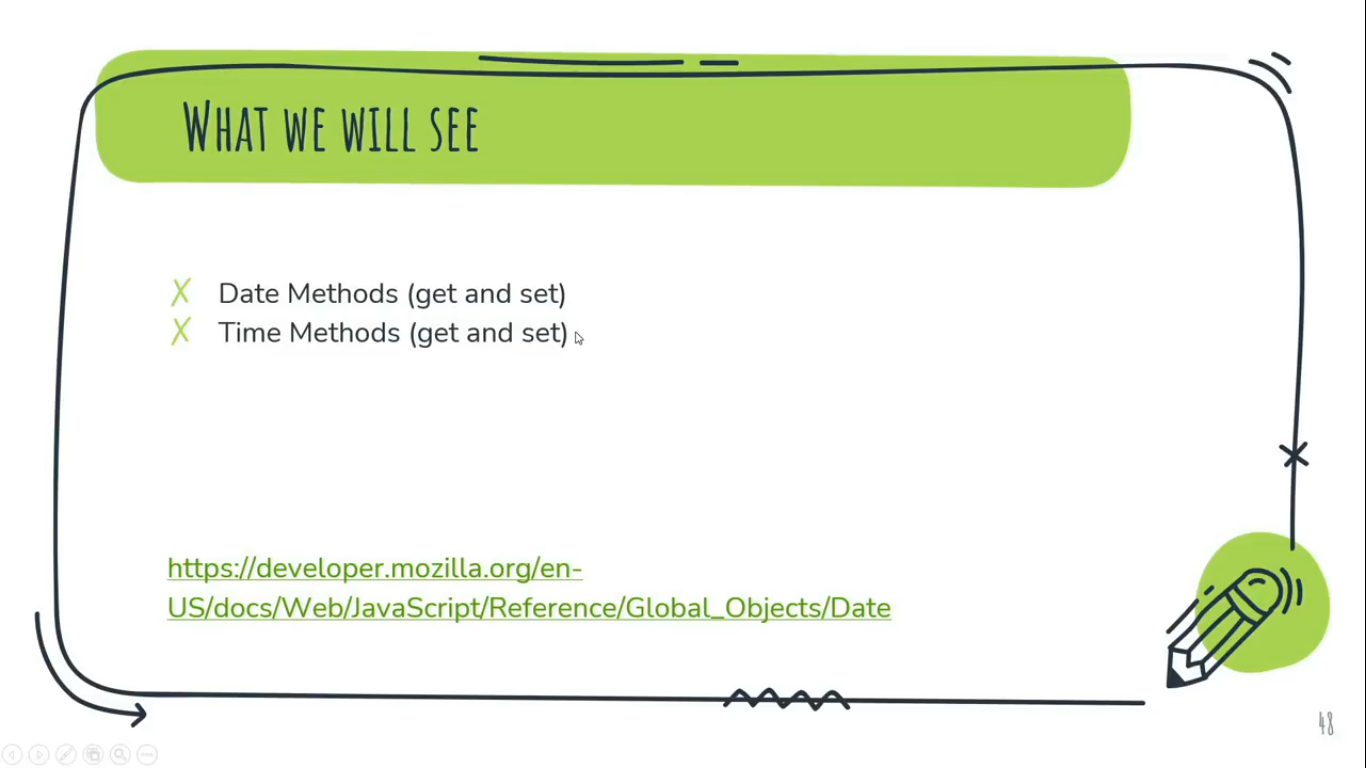
**Date & TIME Objects**

****For more info: <https://developer.mizilla.org/en-us/docs/web/javaScript/reference/global_Objects/Date>

JavaScript Date objects represent a single moment in time in a platform-independent format. Date objects contain a Number that represents milliseconds since 1 January 1970 UTC.

**Creating Date Objects**

There are 4 ways/methods to create a new date object:

1. new Date()
2. new Date(year, month, day, hours, minutes, seconds, milliseconds)  
   *It takes 7 arguments.*
3. new Date(milliseconds)  
   *We cannot avoid month section*
4. new Date(date string)

**#1 Method –** new Date()

Date objects are created with the new Date() constructor.

**Note:** we use ‘new’ keyword to create new instance or say object through or using a class *[like here in this case Date() is a class]*.

Example:

let currDate = new Date(); //constructor

document.write(currDate);

Output:-  
Sun Nov 07 2021 23:16:38 GMT+0530 (India Standard Time) **//Date Object**

Here, GMT stands for ‘Greenwich Mean Time’. So, GMT +5:30 means, India is 5hours and 30 minutes ahead of Greenwich Mean Time.

**Note:**If we want to display date object in local format, we can use **toLocaleString()** method to convert date object in local format

Example:

let currDate = new Date(); //constructor

document.write(currDate. toLocaleString());

Output:-  
11/7/2021, 11:30:58 PM **//Date Object**

**#2 Method –** Date.now()

Date.now() method returns the numeric value corresponding to the current time.

The number of milliseconds elapsed since January 1, 1970 00:00:00 UTC.

Example:

document.write(Date.now());

Output:-  
1636308693977

**#3 Method –** new Date(year, month, …)

7 arguments specify year, month ,day, hour, minute, second, and millisecond (it should be in that order) in new Date() method.

**Note:**

* JavaScript counts months from 0 to 11. So January is 0. December is 11.
* Month argument is necessary at least to render our required Date and to avoid rendering default JavaScript date i.e. (1/1/1970).

Example:

let myDate = new Date(1999, 9, 9, 23, 15, 30, 0);

document.write(myDate.toLocaleString());

Output:-  
10/9/1999, 11:15:30 PM

**#4 Method –** new Date(dateString)

new Date(dateString) method creates a new date object from a date string.

Example:

let myDate = new Date("October 9, 1999 11:15:30:00");

document.write(myDate.toLocaleString());

Output:-  
10/9/1999, 11:15:30 PM

**#5 Method –** new Date(milliseconds)

new Date(milliseconds) method creates a new date object a zero time plus milliseconds.

Example -1

let currDate = Date.now();

function myDate(milliDate){

document.write(new Date(milliDate).toLocaleString());

}

myDate(currDate);

Output:-  
11/8/2021, 11:39:31 AM

Example - 2

let currDate = Date.now();

function myDate(milliDate){

document.write(new Date(milliDate\*2).toLocaleString());

}

myDate(currDate);

Output:-  
9/15/2073, 5:51:21 PM

**Dates Method (get and set)**

Example - 1: **// How to *get the individual Date***

const currDate = new Date();

document.write(currDate.***toLocaleString()*** + "<br>");   
 **//Represent Both Date and Time**

document.write(currDate.***getFullYear()*** + "<br>");  
 **//Get current Year i.e. 2021**

document.write(currDate.***getMonth()*** + "<br>");

**//Get current Month i.e. November (0-11 Jan to Dec)**

document.write(currDate.***getDate()*** + "<br>");  
 **//Get current Date i.e. 8**

document.write(currDate.***getDay()*** + "<br>");  
 **//Get current Day i.e. Monday (1-7 Mon to Sun)**

Output:-  
11/8/2021, 12:03:25 PM  
2021  
10  
8  
1

Example - 2: **// How to *set the individual Date***

const currDate = new Date();

document.write(currDate.***toLocaleString()*** + "<br>");   
 document.write(currDate.***setFullYear(2021)*** + "<br>");  
 **//The setFullYear() method can optionally set month and day**  
 document.write(currDate.***setFullYear(2021, 10, 9)*** + "<br>");   
 document.write(currDate.***setMonth(9)*** + "<br>"); document.write(currDate. ***setDate(10)*** + "<br>"); document.write(currDate. ***setDay(3)*** + "<br>");

Output:-   
11/8/2021, 12:20:45 PM  
1636354245023  
1636440645023  
1633762245023  
1633762245023

**Time Methods (get and set)**

To create time object, we have to use the same new Date() constructor and their methods.

Example - 1: **//How to get the individual Time**

const currTime = new Date();

document.write(currTime.getTime() + "<br>");  
 **//The getTime() method returns the number of milliseconds since Jan 1, 1970**

document.write(currTime.getHours() + "<br>");  
 **//The getHours() method returns the hours of a date as a number from (0-23)**

document.write(currTime.getMinutes() + "<br>");

document.write(currTime.getSeconds() + "<br>");

document.write(currTime.getMilliseconds() + "<br>");

Output:-  
1636363868348  
15  
1  
8  
348

Example - 2: **//How to set the individual Time**

const currTime = new Date();

document.write(currTime.setHours(5) + "<br>");

document.write(currTime.setMinutes(5) + "<br>");

document.write(currTime.getSeconds(5) + "<br>");

document.write(currTime.getMilliseconds(5) + "<br>");

Output:-  
1636329135328  
1636328115328  
15  
328

**Note:**

const currDate = new Date();  
document.write(currDate.toLocaleDateString() + "<br>");  
**//if we want to render only current Date**

const currTime = new Date(); document.write(currTime.toLocaleTimeString()+ "<br>");  
 **//if we want to render only current Time**

const currDateandTime = new Date();  
document.write(currDateandTime.toLocaleString())+ "<br>";  
**//if we want to render both current Date & Time**

Output:-

11/8/2021  
3:27:33 PM  
11/8/2021, 3:27:33 PM

**\*Create a digital clock**Here, we are going to use ***setInterval()*** method

(function(){

setInterval(()=>{

let clock = new Date().toLocaleTimeString();

document.querySelector('.container').innerHTML=clock;

},1000)

})();

Output:-  
4:08:10 PM **//This time will continue running in every time interval of 1sec**