

ASSIGNMENT 1

TOPIC: JAVASCRIPT OBJECTS

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MCA COURSE: WT

Code link to run : [Document](#)

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta http-equiv="X-UA-Compatible" content="IE=edge">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Document</title>

</head>

<body>

  <h4>***MATH OBJECTS/METHODS </h4>

  <script>

    // PI

    document.writeln("PI: " + Math.PI+ '<br>');

    // Round

    document.writeln("Round: " + Math.round(4.5)+ '<br>');

    // Ceil
```

```
document.writeln("Ceil: " + Math.ceil(4.1)+ '<br>');  
  
// Floor  
  
document.writeln("Floor: " + Math.floor(4.9)+ '<br>');  
  
// Max  
  
document.writeln("Max: " + Math.max(1, 3, 2, 5, 4)+ '<br>');  
  
// Min  
  
document.writeln("Min: " + Math.min(1, 3, 2, 5, 4)+ '<br>');  
  
// Abs  
  
document.writeln("Abs: " + Math.abs(-5)+ '<br>');  
  
// Random  
  
document.writeln("Random: " + Math.random()+ '<br>');  
  
// Pow  
  
document.writeln("Pow: " + Math.pow(2, 3)+ '<br>');  
  
// Sqrt  
  
document.writeln("Sqrt: " + Math.sqrt(9)+ '<br>');  
  
</script>
```

<h4>***STRING OBJECTS/METHODS*** </h4>

```
<script>  
  {  
    let str = "THIS IS MY ASSIGNMENT1";  
  
    // Length  
    document.writeln("Length of " + str + ": " + str.length+ '<br>');  
  
    // CharAt  
    document.writeln("CharAt index 10: " + str.charAt(10)+ '<br>');  
  
    // Concat  
    let str1 = "Hello";  
    let str2 = " World!";  
    document.writeln("Concat: " + str1 + " and " + str2 + " : " + str1.concat(str2)+ '<br>');  
  
    // ToUpperCase
```

```
document.writeln("ToUpperCase: " + str.toUpperCase()+ '<br>');  
// ToLowerCase  
document.writeln("ToLowerCase: " + str.toLowerCase()+ '<br>');  
// Substr  
document.writeln("Substr: " + str.substr(0, 5)+ '<br>');  
// Substring  
document.writeln("Substring: " + str.substring(0, 5)+ '<br>');  
// Split  
document.writeln("Split: " + str.split(" ")+ '<br>');  
// Trim  
document.writeln("Trim: " + str.trim()+ '<br>'); // output: Trim: Hello World!  
  
// Replace  
document.writeln("Replace: " + str.replace("World", "JavaScript")+ '<br>'); // output:  
Replace: Hello JavaScript!  
}  
  
</script>
```

<h4>***DATE OBJECTS/METHODS***</h4>

```
<script>  
// Get Current Date and Time  
let date = new Date();  
document.writeln("My Current DATE and TIME: " + date+ '<br>');  
// Get Full Year  
document.writeln("Year in format YYYY: " + date.getFullYear()+ '<br>');  
// Get Month (0-based index)  
document.writeln("Month: " + (date.getMonth() + 1)+ '<br>');  
// Get Date
```

```
document.writeln("Date : " + date.getDate()+ '<br>');  
  
// Get Hours  
document.writeln("Hours: " + date.getHours()+ '<br>');  
  
// Get Minutes  
document.writeln("Minutes: " + date.getMinutes()+ '<br>');  
  
// Get Seconds  
document.writeln("Seconds: " + date.getSeconds()+ '<br>');  
  
// Get Milliseconds  
document.writeln("Milliseconds: " + date.getMilliseconds()+ '<br>');  
  
// Get Time  
document.writeln("Time: " + date.getTime()+ '<br>');  
  
// Set Full Year  
date.setFullYear(2025);  
document.writeln("Set Full Year: " + date+ '<br>');  
  
// Set Month  
date.setMonth(0);  
document.writeln("Set Month: " + date+ '<br>');  
  
// Set Date  
date.setDate(12);  
document.writeln("Set Date: " + date+ '<br>');  
  
// Set Hours  
date.setHours(20);  
document.writeln("Set Hours: " + date+ '<br>');  
  
// Set Minutes  
date.setMinutes(30);  
document.writeln("Set Minutes: " + date+ '<br>');  
  
// Set Seconds  
date.setSeconds(15);  
document.writeln("Set Seconds: " + date+ '<br>');  
  
</script>  
</body>
```

</html>

The screenshot shows a development environment with VS Code on the left and a web browser on the right. The VS Code editor displays a file named 'ObjectsASSIGNMENT1.html' with the following HTML and JavaScript code:

```
1 <!DOCTYPE html>
2 <html Lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta http-equiv="X-UA-Compatible" content="IE=edge">
7   <meta name="viewport" content="width=device-width, initial
8   <title>Document</title>
9 </head>
10
11 <body>
12
13   <h4>***MATH OBJECTS/METHODS </h4>
14   <script>
15     // PI
16     document.writeln("PI: " + Math.PI+ '<br>');
17     // Round
18     document.writeln("Round: " + Math.round(4.5)+ '<br>');
19     // Ceil
20     document.writeln("Ceil: " + Math.ceil(4.1)+ '<br>');
21     // Floor
22     document.writeln("Floor: " + Math.floor(4.9)+ '<br>');
23     // Max
24     document.writeln("Max: " + Math.max(1, 3, 2, 5, 4)+ '<br>');
25     // Min
26     document.writeln("Min: " + Math.min(1, 3, 2, 5, 4)+ '<br>');
27     // Abs
28     document.writeln("Abs: " + Math.abs(-5)+ '<br>');
29     // Random
30     document.writeln("Random: " + Math.random()+ '<br>');
31     // Pow
32     document.writeln("Pow: " + Math.pow(2, 3)+ '<br>');
33     // Sqrt
34     document.writeln("Sqrt: " + Math.sqrt(9)+ '<br>');
35   </script>
36
```

The web browser on the right displays the output of the JavaScript code, showing various mathematical and string operations and their results, such as PI, Round, Ceil, Floor, Max, Min, Abs, Random, Pow, Sqrt, and date/time information.

//Example 2

<!DOCTYPE html>

<html>

<head>

<title>JavaScript Math Object Example</title>

</head>

<body>

<h1>JavaScript Math Object Example</h1>

<p>The value of E is: 0</p>

<p>The value of LN2 is: 0</p>

<p>The value of PI is: 0</p>

<p>The square root of 9 is: 0</p>

<p>The result of 3 raised to the power of 5 is: 0</p>

<p>The result of the floor of 5.8 is: 0</p>

<p>The result of the ceiling of 5.8 is: 0</p>

<p>The result of the round of 5.8 is: 0</p>

<p>The result of the maximum of 5, 10, and 20 is: 0</p>

<p>The result of the minimum of 5, 10, and 20 is: 0</p>

<script>

document.getElementById("e").innerHTML = Math.E;

document.getElementById("ln2").innerHTML = Math.LN2;

document.getElementById("pi").innerHTML = Math.PI;

document.getElementById("sqrt9").innerHTML = Math.sqrt(9);

document.getElementById("pow35").innerHTML = Math.pow(3, 5);

document.getElementById("floor5p8").innerHTML = Math.floor(5.8);

document.getElementById("ceil5p8").innerHTML = Math.ceil(5.8);

document.getElementById("round5p8").innerHTML = Math.round(5.8);

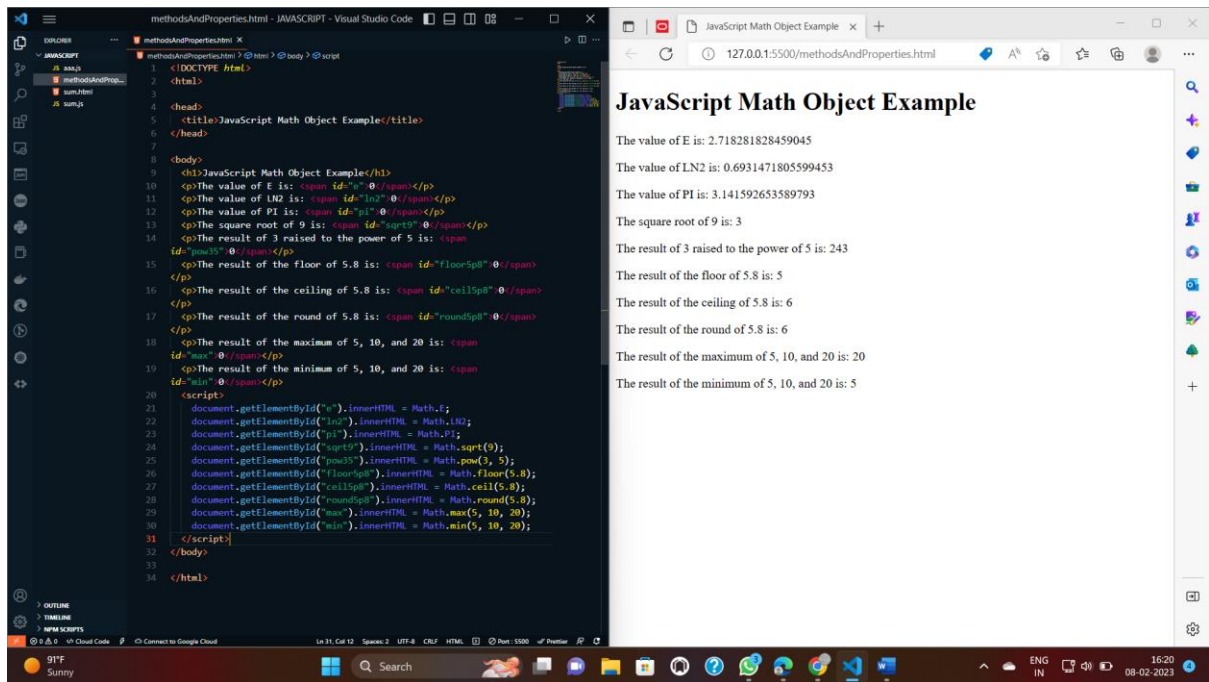
document.getElementById("max").innerHTML = Math.max(5, 10, 20);

document.getElementById("min").innerHTML = Math.min(5, 10, 20);

</script>

</body>

</html>



CODE RUNNED USING JAVASCRIPT:

// MATH Object function

```
console.log("Hello");
```

```
let x= 10;
```

```
let y= 6;
```

```
let z;
```

```
z= x+y;
```

```
console.log("Addition: ");
```

```
console.log(z); //16
```

```
z= x-y;
```

```
console.log("Subtraction: ");
```

```
console.log(z); //4
```

```
z= x*y;
```

```
console.log("Multiplication: " + z);
```

```
//console.log(z); //60
```

```
z= x/y;
```

```
console.log("Division");
```

```
console.log(z); //1.6666666666666667
```

```
//Exploring the MATH object
```

```
z=Math.PI;
```

```
console.log("Pi value: ");
```

```
console.log(z);
```

```
z=Math.ceil(12.5);
```

```
console.log("Ciel value gives max of real number:");
```

```
console.log(z);
```

```
z=Math.floor(12.5);
```

```
console.log("Floor value gives lowest of real number: ");
```

```
console.log(z);
```

```
z=Math.cbrt(8);
```

```
console.log("cube Root");
```

```
console.log(z);
```

```
z=Math.abs(-12);
```

```
console.log("Absolute value: ");
```

```
console.log(z);
```

```
z=Math.max(1,0,56,48,-56,4,9,80);
```



```
console.log("Maximum: ");
```

```
console.log(z);
```

```
z=Math.min(1,0,56,48,-56,4,9,80);
```

```
console.log("minimum : ");
```

```
console.log(z);
```

```
z=Math.pow(2,3);
```

```
console.log("power: ");
```

```
console.log(z);
```

```
z=Math.random();
```

```
console.log("Rondom number is: ");
```

```
console.log(z);
```

```
z=Math.trunc(89.25);
```

```
console.log("Return INTEGER part of number is: ");
```

```
console.log(z);
```

```
z=Math.sign(); //NaN //sign(-23) gives -1
```

```
console.log("Returns 1 or -1 or NaN: ");
```

```
console.log(z);
```

```
a=90;
```

```
z=Math.sin(a*Math.PI/180);
```

```
console.log("sign (" + a+ ") is: ");
```

```
console.log(z);
```

```
z=Math.cos(a*Math.PI/180);
```

```
console.log("cos (" + a+ ") is: ");
```

```
console.log(z);
```



```
Math.log(1);
```

```
Math.log(2);//returns natural logarithm
```

```
Math.log2(8);//base 2
```

```
Math.log10(1000);//base 10
```

```
// Returns a random integer from 0 to 9:
```

```
Math.floor(Math.random() * 10);
```

```
// Returns a random integer from 0 to 10:
```

```
Math.floor(Math.random() * 11);
```

```
let i = Math.acos(-1);//returns the arccosine (in radians) of a number.
```

```
//STRING METHOD
```

```
let str = "RAMAVATH SANTHOSH!";
```

```
// 1. charAt()
```

```
console.log("charAt(): " + str.charAt(0));
```

```
// 2. charCodeAt()
```

```
console.log("charCodeAt(): " + str.charCodeAt(0));
```

```
// 3. concat()
```

```
console.log("concat(): " + str.concat(" How are you?"));
```

```
// 4. endsWith()
```

```
console.log("endsWith(): " + str.endsWith("!"));
```

// 5. *includes()*

```
console.log("includes(): " + str.includes("Hello"));
```

// 6. *indexOf()*

```
console.log("indexOf(): " + str.indexOf("H"));
```

// 7. *lastIndexOf()*

```
console.log("lastIndexOf(): " + str.lastIndexOf("l"));
```

// 8. *length*

```
console.log("length: " + str.length);
```

// 9. *match()*

```
console.log("match(): " + str.match(/l/g));
```

// 10. *repeat()*

```
console.log("repeat(): " + str.repeat(2));
```

// 11. *replace()*

```
console.log("replace(): " + str.replace(/Hello/g, "Hi"));
```

// 12. *search()*

```
console.log("search(): " + str.search(/l/));
```

// 13. *slice()*

```
console.log("slice(): " + str.slice(0, 5));
```

// 14. *split()*

```
console.log("split(): " + str.split(", "));
```

// 15. *startsWith()*

```
console.log("startsWith(): " + str.startsWith("H"));
```

```
// 16. substr()
```

```
console.log("substr(): " + str.substr(0, 5));
```

```
// 17. substring()
```

```
console.log("substring(): " + str.substring(0, 5));
```

```
// 18. toLowerCase()
```

```
console.log("toLowerCase(): " + str.toLowerCase());
```

```
// 19. toUpperCase()
```

```
console.log("toUpperCase(): " + str.toUpperCase());
```

```
// 20. trim()
```

```
let trimmedStr = " Hello, World! ";
```

```
console.log("trim(): " + trimmedStr.trim());
```

```
// DATE Object methods
```

```
let date = new Date(98, 1);
```

```
console.log(date);
```

```
date = new Date(22, 1);
```

```
console.log(date);
```

```
date = new Date("2/1/22");
```

```
console.log(date);
```

```
date.setYear(98);
```

```
console.log(date);
```

```
date.toString();
```

```
console.log(date);
```

```
console.log(today);
```

```
View Go Run Terminal Help
OBJECTS.js - JAVASCRIPT - Visual Studio Code

JS OBJECTS.js X
JS
146 console.log("split(): " + str.split(", "));
147
148 // 15. startsWith()
149 console.log("startsWith(): " + str.startsWith("H"));
150
151 // 16. substr()
152 console.log("substr(): " + str.substr(0, 5));
153
154 // 17. substring()
155 console.log("substring(): " + str.substring(0, 5));

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWin
dows

PS C:\Users\WAMWATH SANTHOSH\OneDrive\Desktop\ALL SEMS\SEM2\WEB TECHNOLOGY\JAVASCRIPT
> node c:\Users\WAMWATH SANTHOSH\OneDrive\Desktop\ALL SEMS\SEM2\WEB TECHNOLOGY\JAVAS
CRIPT\OBJECTS.js
Hello
Addition:
16
Subtraction:
4
Multiplication: 60
Division
1.6666666666666667
PI value:
3.141592653589793
Ciel value gives max of real number:
13
Floor value gives lowest of real number:
12
cube Root
2
Absolute value:
12
Maximum:
80
minimum :
-56
power:
8
Random number is:
0.619411498666252
Return INTEGER part of number is:
0
Connect to Google Cloud
```

```
View Go Run Terminal Help
OBJECTS.js - JAVASCRIPT - Visual Studio Code

# OBJECTS.js x
# OBJECTS.js >...
145 console.log("split(): " + str.split("_"));
146
147 // 15. startsWith()
148 console.log("startsWith(): " + str.startsWith("H"));
149
150 // 16. substr()
151 console.log("substr(): " + str.substr(0, 5));
152
153 // 17. substring()
154 console.log("substring(): " + str.substring(0, 5));
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
Null
sign (W) is:
cos (W) is:
6. 11223344556677
charAt(): 6
charAtOffset(): 82
concat(): RANVAATH SANTOSHJI Now are you?
endsWith(): true
includes(): false
indexOf(): 7
lastIndexOf(): -1
length: 18
match(): null
repeat(): RANVAATH SANTOSHJIRANVAATH SANTOSHJI
replace(): RANVAATH SANTOSHJI
search(): 1
slice(): Ranvy
split(): RANVAATH SANTOSHJI
startsWith(): false
substr(): Ranvy
substring(): Ranvy
toLocaleCase(): ranvaath santoshji
toLocaleCase(): RANVAATH SANTOSHJI
toLog(): Hello, World!
1998-01-31T18:30:00.000Z
1997-01-31T18:30:00.000Z
1997-01-31T18:30:00.000Z
1998-01-31T18:30:00.000Z
1997-01-31T18:30:00.000Z
1997-01-31T18:30:00.000Z
1997-01-31T18:30:00.000Z
1997-01-31T18:30:00.000Z
1997-01-31T18:30:00.000Z
PS C:\Users\SANTOSHJI> cd C:\Users\SANTOSHJI\OneDrive\Desktop\ALL SEM\SEM5\WEB TECHNOLOGY\JAVASCRIPT>
```