

EP 4 : Numbers, Number Methods, Math and Random



Numbers





```
1 let x = 3.14;    // A number with decimals
2 let y = 3;       // A number without decimals
```



```
1 let x = 123e5;    // 12300000
2 let y = 123e-5;   // 0.00123
```



```
1 let x = 9999999999999999; // x will be 9999999999999999
2 let y = 9999999999999999; // y will be 100000000000000000
```



```
1 let x = 0.2 + 0.1;           // x will be 0.30000000000000004  
2 let x = (0.2 * 10 + 0.1 * 10) / 10;    // x will be 0.3
```



```
1 let x = 123;  
2 x.toString();           // returns 123 from variable x  
3 (123).toString();       // returns 123 from literal 123  
4 (100 + 23).toString();  // returns 123 from expression 100 + 23
```




```
1 let x = 9.656;  
2 x.toExponential(2);    // returns 9.66e+0  
3 x.toExponential(4);    // returns 9.6560e+0  
4 x.toExponential(6);    // returns 9.656000e+0
```




```
1 let x = 9.656;  
2 x.toPrecision();           // returns 9.656  
3 x.toPrecision(2);          // returns 9.7  
4 x.toPrecision(4);          // returns 9.656  
5 x.toPrecision(6);          // returns 9.65600
```



```
1 let x = 123;  
2 x.valueOf();           // returns 123 from variable x  
3 (123).valueOf();       // returns 123 from literal 123  
4 (100 + 23).valueOf();  // returns 123 from expression 100 + 23
```

Global JavaScript Methods

JavaScript global methods can be used on all JavaScript data types.

These are the most relevant methods, when working with numbers:

Method	Description
Number()	Returns a number, converted from its argument.
parseFloat()	Parses its argument and returns a floating point number
parseInt()	Parses its argument and returns an integer

Number Properties

Property	Description
MAX_VALUE	Returns the largest number possible in JavaScript
MIN_VALUE	Returns the smallest number possible in JavaScript
POSITIVE_INFINITY	Represents infinity (returned on overflow)
NEGATIVE_INFINITY	Represents negative infinity (returned on overflow)
NaN	Represents a "Not-a-Number" value

Math





```
1 Math.E      // returns Euler's number
2 Math.PI     // returns PI
3 Math.SQRT2   // returns the square root of 2
4 Math.SQRT1_2 // returns the square root of 1/2
5 Math.LN2     // returns the natural logarithm of 2
6 Math.LN10    // returns the natural logarithm of 10
7 Math.LOG2E   // returns base 2 logarithm of E
8 Math.LOG10E  // returns base 10 logarithm of E
```

Number to Integer

There are 4 common methods to round a number to an integer:

Math.round(x)	Returns x rounded to its nearest integer
Math.ceil(x)	Returns x rounded up to its nearest integer
Math.floor(x)	Returns x rounded down to its nearest integer
Math.trunc(x)	Returns the integer part of x (new in ES6)

Random





```
1 Math.random(); // Returns a random number
2 Math.floor(Math.random() * 10); // Returns a random integer from 0 to 9
3 Math.floor(Math.random() * 11); // Returns a random integer from 0 to 10
4 Math.floor(Math.random() * 100); // Returns a random integer from 0 to 99
5 Math.floor(Math.random() * 101); // Returns a random integer from 0 to 100
6 Math.floor(Math.random() * 10) + 1; // Returns a random integer from 1 to 10
7 Math.floor(Math.random() * 100) + 1; // Returns a random integer from 1 to 100
```

Let's make a Color Palette





Generate

MAKEWEBBKK

Next, We will see about
Numbers, Number Methods,
Math and some mini project



SEE YOU SOON ...