Lesson 3

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JS Math Library

JS Math constants

Math.E   // returns Euler's number

Math.PI   // returns PI

Math.SQRT2   // returns the square root of 2

Math.SQRT1_2   // returns the square root of 1/2

Math.LN2   // returns the natural logarithm of 2

Math.LN10   // returns the natural logarithm of 10

Math.LOG2E   // returns base 2 logarithm of E

Math.LOG10E   // returns base 10 logarithm of E

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Math functions

Math.abs(-5.6)
Math.random()
Math.sqrt(4)
Math.ceil(3.2)
Math.floor(9.99), Math.floor(-9.99)
Math.round(7.25)
Math.max(1, 3, 2)
Math.min(-1, -3, -2)
Math.pow(3, 2)
Math.sin(90 * Math.PI / 180)
Math.cos(90 * Math.PI / 180)

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Math functions

Math.abs(-5.6)	5.6
Math.random()	Any real number between 0, 1
Math.sqrt(4)	2
Math.ceil(3.2)	4
Math.floor(9.99), Math.floor(-9.99)	9, -10
Math.round(7.25)	7
Math.max(1, 3, 2)	3
Math.min(-1, -3, -2)	-3
Math.pow(3, 2)	9
Math.sin(90 * Math.PI / 180)	1
Math.cos(0 * Math.PI / 180)	1

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Using Math.random to generate any number

- Generate any integer within given range

```
function getRandomInt(max) {
    return Math.celi(Math.random() * max);
}
```

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Generate random color

- RGB representation
- Generate 3 random numbers in range 0 to 255
- Create a color in rgb(x, y, z) format
- Selecting element for coloring
  - Body background: document.body.style.backgroundColor
- Create a button and add an onclick event to change color interactively.

JS boolean

- Boolean()
- Everything without a value considered as false
  - zero
  - Empty string
  - Undefined null
    - var x; Boolean(x);
  - Null
  - False
  - NaN

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Comparison

- If
- If else
- Nested if else
- Switch case

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