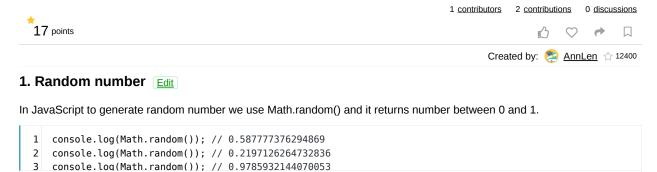
JavaScript Math.random() explain the difference between Math.ceil() vs Math.floor() vs Math.round()



2. Random number between 0 and 10 - floating point Edit

If we want to get random number between 0 and 10 we just need to multiply the result of Math.random() by 10 and round the result.

Reset

```
1 console.log(Math.random() * 10); // 9.357923991790457
2 console.log(Math.random() * 10); // 3.5154493888867466
3 console.log(Math.random() * 10); // 5.1469888802577035

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```

3. Random number between 0 and 10 - integer Edit

Still as we can see the numbers are floating point and usually we want to have integers. Solution is pretty simple and now with help comes 3 methods how we can achieve it:

- Math.round()
- Math.floor()
- Math.ceil()

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Below we have explanation points with code examples.

4. Using Math.round() Edit

Math.round() - round to the nearest number (integer eg 1,5,10) eg:

- 1.23 will be rounded to 1
- 5.92 will be rounded to 6

Example how to generate random number between 0 and 10 with Math.round()

```
console.log(Math.round(1.23)); // 1
console.log(Math.round(5.92)); // 6

console.log(Math.round(Math.random() * 10)); // 2
console.log(Math.round(Math.random() * 10)); // 9
console.log(Math.round(Math.random() * 10)); // 5

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```

5. Using Math.floor() Edit

1 of 2 5/9/21, 13:57

Math.floor() - round DOWN to the nearest number eg:

- 1.23 will be rounded to 1
- 5.92 will be rounded to 5

Example how to generate random number between 0 and 10 with Math.floor()

```
console.log(Math.floor(1.23)); // 1
console.log(Math.floor(5.92)); // 5

console.log(Math.floor(Math.random() * 10)); // 3
console.log(Math.floor(Math.random() * 10)); // 1
console.log(Math.floor(Math.random() * 10)); // 6

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```

6. Using Math.ceil() Edit

Math.ceil() - round UP to the nearest number eg:

- 1.23 will be rounded to 2
- 5.92 will be rounded to 6

Example how to generate random number between 0 and 10 with Math.ceil()

```
1  console.log(Math.ceil(1.23)); // 2
2  console.log(Math.ceil(5.92)); // 6
3
4  console.log(Math.ceil(Math.random() * 10)); // 5
5  console.log(Math.ceil(Math.random() * 10)); // 7
6  console.log(Math.ceil(Math.random() * 10)); // 3

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```

2 of 2 5/9/21, 13:57