


Day 12, Today's Topic

Rest Parameters

DAILY
JS



```
/* =====  
** ===== Daily JS - Day 12 =====  
** =====  
*/
```

Day 12: Rest Parameters

Today's and Tomorrow's concepts are something whose syntax might confuse you a little initially if you are a beginner, but trust me, it'll only take you a few minutes to understand them.

Today we will discuss about the rest parameters, and, tomorrow we will discuss about the spread operator.

As I told you before that in ES6 there were some major changes, but some of them were just syntactic changes intended for developers to write less number of lines of code. Rest and spread is one of them.

This one line can probably make your concept clear in very simple language -

****`Rest` is used to gather elements together****

****Rest Parameters**** is a very good way to handle function parameters when the number of arguments are unknown. It allows us to collect various functional arguments together in an array.

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```
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Syntax

Syntax is super easy, while defining the function, instead of specifying different arguments, just write 3 dots followed by a single argument name.


That single argument will be an array which will contain all the arguments that are passed inside the function call

```
```js  
function functionName (... parameters) {
 // all the arguments are collected
 // inside the parameters array
 // arg1 = parameters[0]
 // arg2 = parameters[1]
 ...
 ...
}
```

```
functionName (arg1, arg2, arg3, arg4)
```

```
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```

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```
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Let's look at a simple example

This is probably the example everyone take, while explaining the concept of rest parameters, and it explains the concept well, so let's have a look.

****Write a function which returns the sum of its arguments given that you don't know the number of arguments****

You know the syntax, so try this out yourself then see the answer.

```
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```

/* ===== */
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/* ===== */

/**
 * Write a function which returns the sum of its arguments
 * given that you don't know the number of arguments
 */

// Using normal for loop
function argSum1 (...args) {
  let sum = 0;
  for (let i=0; i<args.length; i++) {
    sum += args[i];
  }
  return sum;
}
console.log ('argSum1 (1, 2, 3, 4, 5): ', argSum1 (1, 2, 3, 4, 5)); // 15
console.log ('argSum1 (10, 20, 30, 40):', argSum1 (10, 20, 30, 40)); // 100

// Using forEach
function argSum2 (...args) {
  let sum = 0;
  args.forEach (arg => sum += arg);
  return sum;
}
console.log ('argSum2 (1, 2, 3, 4, 5): ', argSum2 (1, 2, 3, 4, 5)); // 15
console.log ('argSum2 (10, 20, 30, 40):', argSum2 (10, 20, 30, 40)); // 100

// One Liner - reduce()
const argSum3 = (...args) => args.reduce ((sum, arg) => sum+arg, 0);
console.log ('argSum3 (1, 2, 3, 4, 5): ', argSum3 (1, 2, 3, 4, 5)); // 15
console.log ('argSum3 (10, 20, 30, 40):', argSum3 (10, 20, 30, 40)); // 100

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```



```
/* ===== */
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/* ===== */

/**
 * Write a function that takes in the name of a student
 * and his marks and returns a grade statement
 */

function gradeStatement (name, ...marks) {
  // Number of subjects
  const numOfSubjects = marks.length;

  // Sum of marks
  const sum = marks.reduce ((total, mark) => total+mark, 0);

  // Average of marks
  const average = sum/numOfSubjects;

  let grade;
  if (average ≥ 90) grade = 'S';
  else if (average ≥ 80) grade = 'A';
  else if (average ≥ 70) grade = 'B';
  else if (average ≥ 60) grade = 'C';
  else grade = 'F';

  return `The student ${name} has the grade - ${grade}`;
}

console.log (gradeStatement("John", 90, 95, 98, 82));
console.log (gradeStatement("Amanda", 61, 82, 99));

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```

Thank you!

Feel free to reach out...

Email: theleanprogrammer@gmail.com

Web: madhavbahl.tech/

Github: github.com/MadhavBahlMD

LinkedIn: linkedin.com/in/madhavbahl/

Insta: instagram.com/theleanprogrammer/

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