

Comp 125 - Visual Information Processing

Spring Semester 2018 - week 7 - monday

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JavaScript - functions - basic usage - part 4

parameters and arguments

- custom functions may also be modified by defining accepted **parameters**
 - *parameter values may be used in the executed logic*
- parameters allow a developer to pass values into the function
 - *may be used to modify the logic and executed code*
- parameters are always defined between a function's parentheses
- as we call the function, we pass the required values as **arguments**
 - *also specified between the parentheses for the function call*

JavaScript - functions - basic usage - part 5

using parameters and arguments - example

- structure for a function with parameter

```
function (parameter) {  
    // test output of parameter  
    console.log("function parameter = " + parameter);  
}
```

- example usage might be as follows

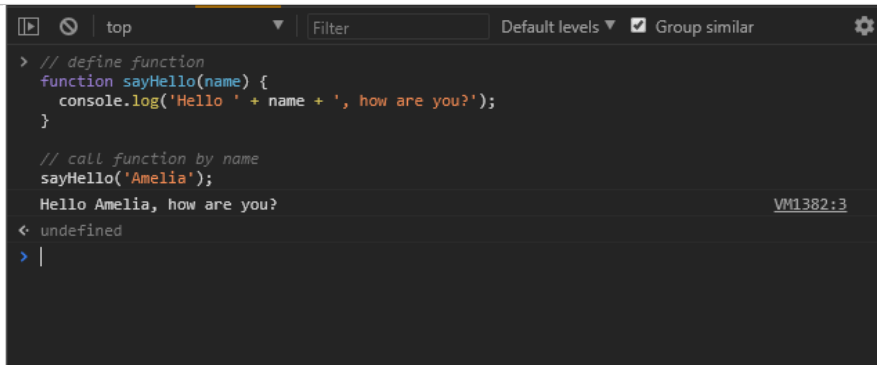
```
function sayHello(name) {  
    // output greeting to person  
    console.log('Hello' + name + ', how are you?');  
}
```

- then call this function
 - *passing an argument for the required function parameter*

```
sayHello('Amelia');
```

JS Functions - parameters and arguments - example

add a custom function with a parameter, and call function with passed argument...

A screenshot of a web browser's developer console. The top bar shows 'top' as the selected scope, a 'Filter' input, 'Default levels' dropdown, and a 'Group similar' checkbox. The console content shows a function definition:

```
> // define function
function sayHello(name) {
  console.log('Hello ' + name + ', how are you?');
}

// call function by name
sayHello('Amelia');
```

 Below the code, the output 'Hello Amelia, how are you?' is displayed, with a link to 'VM1382:3'. The prompt '< undefined' is shown, and the next line has a blue prompt character '> |'.

JS - function call 3

JavaScript - functions - basic usage - part 6

using parameters and arguments - multiple

- functions may also specify multiple parameters
- function calls may pass multiple arguments

```
function nameGenerator(first, last) {  
  ...  
}
```

- each parameter is separated by a comma
- function body may use either or both parameter

JavaScript - functions - basic usage - part 7

using parameters and arguments - multiple

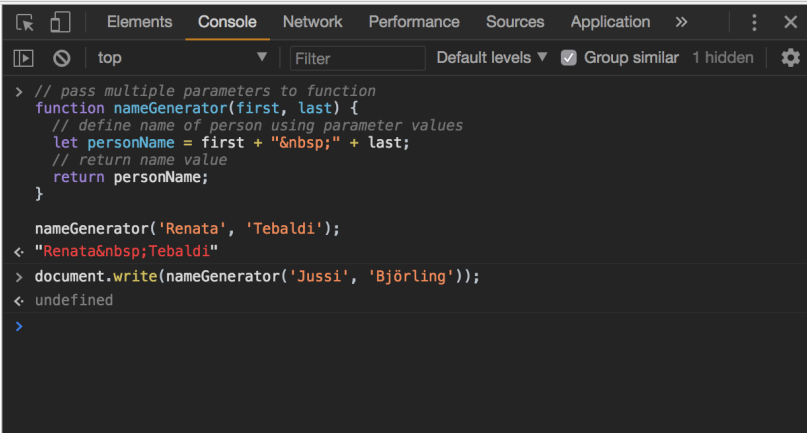
```
// pass multiple parameters to function
function nameGenerator(first, last) {
  // define name of person using parameter values
  let personName = first + "&nbsp;" + last;
  // return name value
  return personName;
}

nameGenerator('Renata', 'Tebaldi');
```

JS Functions - parameters and arguments - example

custom function with multiple parameters...

Jussi Björling



```
> // pass multiple parameters to function
function nameGenerator(first, last) {
  // define name of person using parameter values
  let personName = first + "&nbsp;" + last;
  // return name value
  return personName;
}

nameGenerator('Renata', 'Tebaldi');
< "Renata&nbsp;Tebaldi"
> document.write(nameGenerator('Jussi', 'Björling'));
< undefined
>
```

JS - function with multiple parameters

JS Functions - functions as values

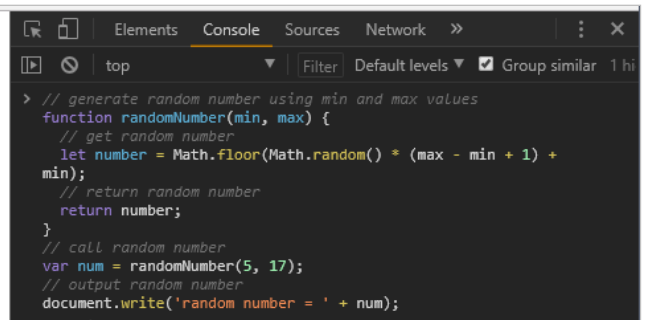
- return value from a function may be used within a block of code
- function calls may be used as values
- enables dynamic values for variables &c.

```
// generate random number using min and max values
function randomNumber(min, max) {
  // get random number
  let number = Math.floor(Math.random() * (max - min + 1) + min);
  // return random number
  return number;
}
// call random number
var num = randomNumber(5, 17);
```


JS Functions - functions as values - example

use function as value...

random number = 9



```
> // generate random number using min and max values
function randomNumber(min, max) {
  // get random number
  let number = Math.floor(Math.random() * (max - min + 1) +
min);
  // return random number
  return number;
}
// call random number
var num = randomNumber(5, 17);
// output random number
document.write('random number = ' + num);
```

JS - function as value

JS Functions - functions as argument

- pass function as argument
 - *get return value from passed function*
- e.g. call another function with random number as argument
 - *dynamic value will always be passed to function as argument*

```
// count down from passed value
function countdown(count) {
  // use count in for loop
  for (i = count; i >= count; i--) {
    // log value of each iteration of loop
    console.log('<br>count = ' + i);
    // check end of count
    if (i === 0) {
      return true;
    }
  }
}
// use random number as argument to countdown
countdown(randomNumber(3, 13));
```

JS Functions - functions as values - example

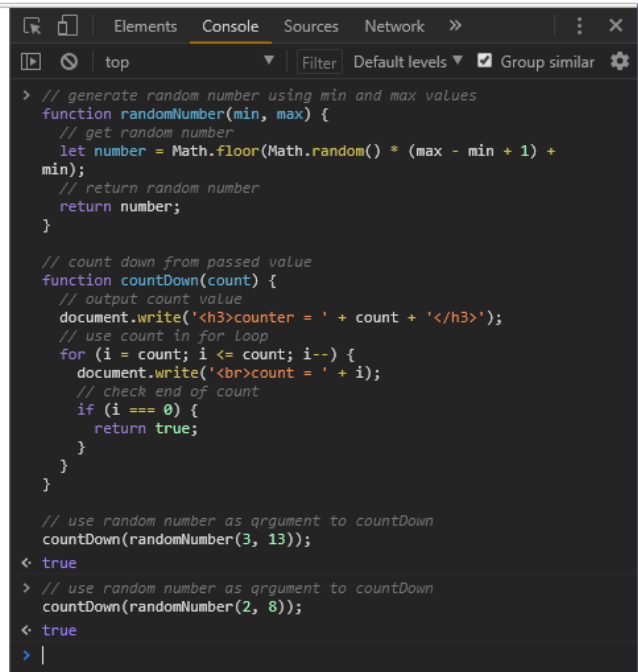
use function as argument...

counter = 10

count = 10
count = 9
count = 8
count = 7
count = 6
count = 5
count = 4
count = 3
count = 2
count = 1
count = 0

counter = 3

count = 3
count = 2
count = 1
count = 0



```
> // generate random number using min and max values
function randomNumber(min, max) {
  // get random number
  let number = Math.floor(Math.random() * (max - min + 1) +
min);
  // return random number
  return number;
}

// count down from passed value
function countdown(count) {
  // output count value
  document.write('<h3>counter = ' + count + '</h3>');
  // use count in for loop
  for (i = count; i <= count; i--) {
    document.write('<br>count = ' + i);
    // check end of count
    if (i === 0) {
      return true;
    }
  }
}

// use random number as argument to countdown
countdown(randomNumber(3, 13));
< true
> // use random number as argument to countdown
countdown(randomNumber(2, 8));
< true
> |
```

JS - function as value

HTML - markup for headings - part I

- HTML is flexible in markup usage
 - *due to presentational versus structural considerations*
- headings might be perceived as purely presentational, e.g.

```
<span class="heading">Chapter 1</span>
```

- issues with presentational markup, e.g.
 - *visual browsers with CSS will render as expected*
 - *no CSS, and browsers will render as normal text*
 - *non-visual browsers = normal text and no heading*
 - *accessibility issues...*
- search engines, ranking, spiders...
 - *will not process this markup as a heading*
 - *no semantic meaning...*
 - *recorded as normal text*
- CSS styles can be unique
 - *but restricted to class usage with heading*

HTML - markup for headings - part 2

- many different ways to markup content with HTML, e.g.

```
<p><b>Chapter 1</b></p>
```

- issues still exist with variant markup options, e.g.
 - *visual browsers will render text in bold & same size as default*
 - *unique styling is problematic...*
 - *search engines, ranking, spiders...*
 - will not process this markup as a heading
 - no semantic meaning...
 - recorded as normal text

HTML - markup for headings - part 3

- use markup correctly with structure and meaning, e.g.

```
<h3>Chapter 1</h3>
```

- benefits of this markup, e.g.
 - *conveys meaning to contained text*
 - *visual and non-visual browsers treat heading correctly*
 - regardless of any associated styles...
 - *easy to add unique styles with CSS*
 - *search engines &c. will interpret this markup correctly*
 - extract keywords, semantics, structure...

References

- W3Schools - HTML5
- headings
- W3Schools - JS
- conditionals
- For loop
- functions