

CMSC388A

Web Application Development with JavaScript



Rest, Spread, Array Functions

Department of Computer Science

University of MD, College Park

Slides material developed by Ilchul Yoon, Nelson Padua-Perez

Default Parameters

- Standardized in **ES6**
- Allow named parameters to be initialized with default values
 - Literal or computed by a function
- **Example:** DefaultParameters.html

Rest Operator (...variable)

- Rest Operator
 - (...variable) appears at the end of the parameters list
 - It will receive all remaining arguments
 - Stores the remaining arguments as an array
- **Example:** RestOperator.html

Spread Operator

- Spreads (extracts) elements from an iterable (e.g., array, string) generating a sequence
 - Uses triple dot (exactly like rest operator)
 - let p = ["C", "Java"]
 - » ...p corresponds to "C", "Java"
 - Can be used inside array literals
- **Example:** SpreadOperator.html
 - The value **arguments** in a function provides information about arguments

Array's forEach, find, findIndex Methods

- **forEach** - Calls a provided **callback function** once for each element in an array in ascending order
 - Not invoked for index properties that have been deleted or are uninitialized
 - Callback can have one or two parameters
- **find** - Returns the value of the first element in the provided array that satisfies the provided testing function
- **findIndex**
 - Returns the index of the first element in the array that satisfies the provided testing function. Otherwise, it returns -1
 - Tests if at least one element in the array passes the test
- **Example:** ArrayForEachFindFindIndex.html

Array's map, every, some Methods

- **map**
 - **Creates** a new array with the results of calling a provided function on every element in the calling array
- **Example:** ArrayMap.html
- **every**
 - Tests if all elements in the array pass the test implemented by the provided function. Returns a boolean value
- **some**
 - Tests if at least one element in the array passes the test
- **Example:** ArrayEverySome.html

Array Reduce Method

- **Array reduce method** - generates a single value
 - Can take an initial value. If no initial value is provided, the first array element is used as the initial value
- **Example:** Reduce.html
- **Example:** ReduceObject.html

filter Method

- **Filter** - Returns a shallow copy of elements from array that satisfy a predicate
- **Example:** Filter.html
- The **elem**, **index**, **array** parameters can be seen in other array functions
 - **Example:** ForMapIndex.html

Sets

- Collection of keys
- Keys can be primitive or references
- The Set constructor has zero or more arguments. With no arguments an empty set will be created
- If an argument is specified, it needs to be iterable (e.g., array)
- When iterating over sets, elements will be processed in the order they were inserted
- **Example:** Set.html