

# CMSC335

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## Web Application Development with JavaScript



## Rest, Spread, Array Functions

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# Default Parameters

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

# Rest Operator (...variable)

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- 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

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- 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

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- **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

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- **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

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- **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

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- **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

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- 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