

# UNDERSCORE.JS

## Collection Functions (Arrays or Objects)

`_.each(list, iterator, [context])` Alias: **forEach** Iterates over a list of elements, yielding each in turn to an iterator function. The iterator is bound to the context value (if provided).

`_.map(list, iterator, [context])` Alias: **collect** Produces a new array of values by mapping each value in list through a transformation function and returning the results as a new array.

`_.reduce(list, iterator, memo, [context])` Aliases: **inject**, **foldl** Also known as inject and foldl, reduce boils down a list of values into a single value by successively calling a reducer function on each element in the list, returning the result of the final call. The reducer function receives the previous result, the current element, and the context value (if provided).

`_.reduceRight(list, iterator, memo, [context])` Alias: **foldr** The right-associative version of reduce. Delegates to the JavaScript 1.8 version of reduce.

`_.find(list, iterator, [context])` Alias: **detect** Looks through each value in the list, returning the first one that passes a truth test (iterator). The iterator is bound to the context value (if provided).

`_.filter(list, iterator, [context])` Alias: **select** Looks through each value in the list, returning an array of all the values that pass a truth test (iterator). The iterator is bound to the context value (if provided).

`_.where(list, properties)` Looks through each value in the list, returning an array of all the values that contain all of the key-value pairs listed in properties.

`_.findWhere(list, properties)` Looks through the list and returns the first value that matches all of the key-value pairs listed in properties.

`_.reject(list, iterator, [context])` Returns the values in list without the elements that the truth test (iterator) passes. The opposite of filter.

`_.every(list, iterator, [context])` Alias: **all** Returns true if all of the values in the list pass the iterator truth test. Delegates to the native method every.

`_.some(list, [iterator], [context])` Alias: **any** Returns true if any of the values in the list pass the iterator truth test. Short-circuits and stops iterating on the first value that passes.

`_.contains(list, value)` Alias: **include** Returns true if the value is present in the list. Uses indexOf internally, if list is an Array.

`_.invoke(list, methodName, [*arguments])` Calls the method named by methodName on each value in the list. Any extra arguments passed to the function are passed to the method.

`_.pluck(list, propertyName)` A convenient version of what is perhaps the most common use-case for map: extracting a list of property values from a list of objects.

`_.max(list, [iterator], [context])` Returns the maximum value in list. If iterator is passed, it will be used on each value to generate the criteria for comparison.

`_.min(list, [iterator], [context])` Returns the minimum value in list. If iterator is passed, it will be used on each value to generate the criteria for comparison.

`_.sortBy(list, iterator, [context])` Returns a sorted copy of list, ranked in ascending order by the results of running each value through iterator.

`_.groupBy(list, iterator, [context])` Splits a collection into sets, grouped by the result of running each value through iterator. If iterator is a string, the property names are used as keys for the groups.

`_.countBy(list, iterator, [context])` Sorts a list into groups and returns a count for the number of objects in each group. Similar to groupBy.

`_.shuffle(list)` Returns a shuffled copy of the list, using a version of the Fisher-Yates shuffle.

`_.toArray(list)` Converts the list (anything that can be iterated over), into a real Array. Useful for transmuting the arguments object.

`_.size(list)` Return the number of values in the list.

## Array Functions

`_.first(array, [n])` Alias: **head**, **take** Returns the first element of an array. Passing n will return the first n elements of the array.

`_.initial(array, [n])` Returns everything but the last entry of the array. Especially useful on the arguments object. Pass n to exclude the last n elements of the array.

`_.last(array, [n])` Returns the last element of an array. Passing n will return the last n elements of the array.

`_.rest(array, [index])` Alias: **tail**, **drop** Returns the rest of the elements in an array. Pass an index to return the values of the array from that index onwards.

`_.compact(array)` Returns a copy of the array with all falsy values removed. In JavaScript, false, null, 0, "", undefined and NaN are all falsy.

`_.flatten(array, [shallow])` Flattens a nested array (the nesting can be to any depth). If you pass shallow, the array will only be flattened a single level.

`_.without(array, [*values])` Returns a copy of the array with all instances of the values removed.

`_.union(*arrays)` Computes the union of the passed-in arrays: the list of unique items, in order, that are present in one or more of the arrays.

`_.intersection(*arrays)` Computes the list of values that are the intersection of all the arrays. Each value in the result is present in each of the input arrays.

`_.difference(array, *others)` Similar to without, but returns the values from array that are not present in the other arrays.

`_.uniq(array, [isSorted], [iterator])` Alias: **unique** Produces a duplicate-free version of the array, using === to test object equality. If you key is provided, it will compare the elements of the array using the provided key function.

`_.zip(*arrays)` Merges together the values of each of the arrays with the values at the corresponding position. Useful when you have separate arrays of data and want to merge them together into objects.

`_.object(list, [values])` Converts arrays into objects. Pass either a single list of [key, value] pairs, or a list of keys, and a list of values.

`_.indexOf(array, value, [isSorted])` Returns the index at which value can be found in the array, or -1 if value is not present in the array. Usable with sorted arrays.

`_.lastIndexOf(array, value, [fromIndex])` Returns the index of the last occurrence of value in the array, or -1 if value is not present. Uses lastIndexOf.

`_.sortedIndex(list, value, [iterator], [context])` Uses a binary search to determine the index at which the value should be inserted into the list in order to maintain its sort order.

`_.range([start], stop, [step])` A function to create flexibly-numbered lists of integers, handy for each and map loops. start, if omitted, defaults to 0.

## Function (uh, ahem) Functions

`_.bind(function, object, [*arguments])` Bind a function to an object, meaning that whenever the function is called, the value of this will be the object.

`_.bindAll(object, [*methodNames])` Binds a number of methods on the object, specified by methodNames, to be run in the context of the object.

`_.partial(function, [*arguments])` Partially apply a function by filling in any number of its arguments, without changing its dynamic this value.

`_.memoize(function, [hashFunction])` Memoizes a given function by caching the computed result. Useful for speeding up slow-running computations.

`_.delay(function, wait, [*arguments])` Much like setTimeout, invokes function after wait milliseconds. If you pass the optional arguments, they will be passed to the function when it is invoked.

`_.defer(function, [*arguments])` Defers invoking the function until the current call stack has cleared, similar to using setTimeout with a delay of 0.

`_.throttle(function, wait)` Creates and returns a new, throttled version of the passed function, that, when invoked repeatedly, will only act on the first call and then "throttles" subsequent calls.

`_.debounce(function, wait, [immediate])` Creates and returns a new debounced version of the passed function that will postpone its execution until after wait milliseconds have elapsed since the last time the function was invoked. Useful for triggering actions when the user finishes inputting text into a text field.

`_.once(function)` Creates a version of the function that can only be called one time. Repeated calls to the modified function will have no effect.

`_.after(count, function)` Creates a version of the function that will only be run after first being called count times. Useful for grouping asynchronous operations.

`_.wrap(function, wrapper)` Wraps the first function inside of the wrapper function, passing it as the first argument. This allows the wrapper function to be used as a decorator.

`_.compose(*functions)` Returns the composition of a list of functions, where each function consumes the return value of the function that immediately precedes it.

## Object Functions

`_.keys(object)` Retrieve all the names of the object's properties.

`_.values(object)` Return all of the values of the object's properties.

`_.pairs(object)` Convert an object into a list of [key, value] pairs.

`_.invert(object)` Returns a copy of the object where the keys have become the values and the values the keys. For this to work, all of the values of the original object must be unique.

`_.functions(object)` Alias: **methods** Returns a sorted list of the names of every method in an object — that is to say, the name of every function property.

`_.extend(destination, *sources)` Copy all of the properties in the source objects over to the destination object, and return the destination object.

`_.pick(object, *keys)` Return a copy of the object, filtered to only have values for the whitelisted keys (or array of valid keys).

`_.omit(object, *keys)` Return a copy of the object, filtered to omit the blacklisted keys (or array of keys).

`_.defaults(object, *defaults)` Fill in null and undefined properties in object with values from the defaults objects, and return the object. As of Underscore 1.4, only the first non-null and non-undefined default value is used.

`_.clone(object)` Create a shallow-copied clone of the object. Any nested objects or arrays will be copied by reference, not duplicated.

`_.tap(object, interceptor)` Invokes interceptor with the object, and then returns object. The primary purpose of this method is to "tap into" a method chain in order to call methods between chain steps.

`_.has(object, key)` Does the object contain the given key? Identical to object.hasOwnProperty(key), but uses a safe reference to the hasOwnProperty property of the object.

`_.isEqual(object, other)` Performs an optimized deep comparison between the two objects, to determine if they should be considered equal.

`_.isEmpty(object)` Returns true if object contains no values.

`_.isElement(object)` Returns true if object is a DOM element.

`_.isArray(object)` Returns true if object is an Array.

`_.isObject(value)` Returns true if value is an Object. Note that JavaScript arrays and functions are objects, while (normal) strings and numbers are not.

`_.isArguments(object)` Returns true if object is an Arguments object.

`_.isFunction(object)` Returns true if object is a Function.

`_.isString(object)` Returns true if object is a String.

`_.isNumber(object)` Returns true if object is a Number (including NaN).

`_.isFinite(object)` Returns true if object is a finite Number.

`_.isBoolean(object)` Returns true if object is either true or false.

`_.isDate(object)` Returns true if object is a Date.

`_.isRegExp(object)` Returns true if object is a RegExp.

`_.isNaN(object)` Returns true if object is NaN. Note: this is not the same as the native isNaN function, which will also return true if the var is not a number.

`_.isNull(object)` Returns true if the value of object is null.

`_.isUndefined(value)` Returns true if value is undefined.

## Utility Functions

`_.noConflict()` Give control of the "\_" variable back to its previous owner. Returns a reference to the Underscore object.

`_.identity(value)` Returns the same value that is used as the argument. In math: f(x) = x This function looks useless, but is used throughout Underscore.

`_.times(n, iterator, [context])` Invokes the given iterator function n times. Each invocation of iterator is called with an index argument. Note that the context value is not passed to the iterator.

`_.random(min, max)` Returns a random integer between min and max, inclusive. If you only pass one argument, it will return a number between 0 and that argument.

`_.mixin(object)` Allows you to extend Underscore with your own utility functions. Pass a hash of {name: function} definitions to have your functions added to Underscore.

`_.uniqueId([prefix])` Generate a globally-unique id for client-side models or DOM elements that need one. If prefix is passed, the id will be prefixed with it.

`_.escape(string)` Escapes a string for insertion into HTML, replacing &, <, >, ', and / characters.

`_.unescape(string)` The opposite of escape, replaces &amp;, &lt;, &gt;, &quot;, &#x27;, and &#x2F; with their unescaped counterparts.

`_.result(object, property)` If the value of the named property is a function then invoke it; otherwise, return it.

`_.template(templateString, [data], [settings])` Compiles JavaScript templates into functions that can be evaluated for rendering. Useful for building user interfaces.

## Chaining

`_.chain(obj)` Returns a wrapped object. Calling methods on this object will continue to return wrapped objects until value is used.

`_(obj).value()` Extracts the value of a wrapped object.