■ Week 3 Exercises – Array Methods & Rest/Spread Operator

Follow these exercises to practice array methods and rest/spread operators in JavaScript. Try to solve them on your own, step by step.

■ *rest-spread-operator/rest.js*

Ex1: Make a function using the rest operator to get all the arguments passed in and console log them.
Ex2: Make a function to get the first and second arguments separately, and use the rest operator to get the remaining arguments. Console log all of them.
Ex3: Use the rest operator to get the first 3 elements of an array, and collect the rest. Console log them.
Ex4: Use the rest operator to get name, age, married, music, and collect the rest of the properties from an object. Console log them.

■ *rest-spread-operator/spread.js*

Ex1: Use the spread operator to copy an array and an object of a given array and object. Console log the copies.
Ex2: Use the spread operator to merge two arrays and two objects. Console log the merged results.
Ex3: Use the spread operator to add an element to the start and end of an array.
Ex4: Use the spread operator to add a key to the start and end of an object.
Ex5: Use the spread operator to merge two arrays and also add an element to the start and one at the end.
Ex6: Use the spread operator to merge two objects and also add a key to the start and one at the end.

■ *array-methods/push-pop-shift-unshift.js*

Ex1: Add a new fruit to the end of the array using push.
Ex2: Remove the last element of the array using pop.
Ex3: Add a new city to the start of the array using unshift.
Ex4: Remove the first element of the array using shift.
Ex5: Combine multiple operations (push, unshift, pop, shift) and console log the results after each operation.

■ *array-methods/slice.js*

Ex1: Get the first 3 elements of an array.
Ex2: Get the last 2 elements of an array.

Ex3: Get a middle portion of an array (excluding "red" and "purple").
Ex4: Get the third element to the third last element of an array.

■ *array-methods/includes-indexOf-find.js*

Ex1: Use includes to check if "Charlie" exists in an array.
Ex2: Use includes to check if "Ivy" exists in an array.
Ex3: Use indexOf to find the index of "Eve".
Ex4: Use indexOf to find the index of "Zoe" (should return -1 if not found).
Ex5: Use find to get the first player whose name starts with "D".
Ex6: Use find to get the first player whose name length is 5.

■ *array-methods/foreach.js*

Ex1: Use forEach to console log the area of a circle for each radius in an array.
Ex2: Use forEach to console log a welcome message for each person in an array.
Ex3: Use forEach to display the price of an item after tax.

■ *array-methods/filter.js*

Ex1: Use filter to create a new array with only the even numbers.
Ex2: Use filter to create a new array with only the people who are 30 or older.
Ex3: Use filter to create a new array with products that have a price greater than 200 after tax.
Ex4: Use filter to create a new array with books that have won an award.
Ex5: Use filter to create a new array with sports teams that have less than 6 players.

■ *array-methods/map.js*

Ex1: Use map to create a new array that contains the square of each number in the original array.
Ex2: Use map and the spread operator to create a new array of objects with a new key "hobby" set to "Coding".
Ex3: Use map to create a new array that returns the full name of each object (combine firstName and lastName).

■ Tip for students: Before running your code, try to predict the output. This will help you understand how each array method or operator works!