Advanced JavaScript Algorithms - practice exercise

Question 1 Given an array of numbers, write a function that prints in the console another array which contains all the even numbers in the original array, which also have even indexes only.

- Test 1: getOnlyEvens([1, 2, 3, 6, 4, 8]) prints [4]
- Test 2: getOnlyEvens([0, 1, 2, 3, 4]) prints [0, 2, 4]

Question 2

- Create a function that takes a two-digit number as an parameter and prints "Ok" in the console if the given string is greater than its reversed digit version. If not, the function will print "Not ok"
  - Test 1: reverseCompare(72) prints "ok" because 72 > 27
  - reverseCompare(23) prints "Not ok", because 23 is not greater than 32

Question 3

- Write a function that takes a positive integer and returns the factorial of the number. Notes: The factorial of 0 is 1. Ex: factorial seven is : 1 × 2 × 3 × 4 × 5 × 6 × 7. The factorial of any positive integer x is x * (x - 1) * (x - 2) * . . . . . * 1 (ex: factorial of 4 is 4 * 3 * 2 * 1 = 24)
  - Test 1: returnFactorial(5) outputs 120
  - Test 2: returnFactorial(6) outputs 720
  - Test 3: returnFactorial(0) outputs 1

Question 4 (Meera array)

- A Meera array is defined to be an array containing only numbers as its elements and for all n values in the array, the value n*2 is not in the array. So [3, 5, -2] is a Meera array because 3*2, 5*2 or 2*2 are not in the array. But [8, 3, 4] is not a Meera array because 2*4=8 and both 4 and 8 are elements found in the array. Write a function that takes an array of numbered elements and prints “I am a Meera array” in the console if its array does NOT contain n and also n*2 as value. Otherwise, the function prints “I am NOT a Meera array”
  - Test 1: checkMeera([10, 4, 0, 5]) outputs “I am NOT a Meera array” because 5 * 2 is 10
  - Test 2: checkMeera([7, 4, 9]) outputs “I am a Meera array”
  - Test 1: checkMeera([1, -6, 4, -3]) outputs “I am NOT a Meera array” because -3 *2 is -6

Question 5 (Dual array)

- Define a Dual array to be an array where every value occurs exactly twice. For example, {1, 2, 1, 3, 3, 2} is a dual array.The following arrays are not Dual arrays {2, 5, 2, 5, 5} (5 occurs three times instead of two times) {3, 1, 1, 2, 2} (3 occurs once instead of two times) Write a function named isDual that returns 1 if its array argument is a Dual array. Otherwise it returns 0.

Question 6

- Write a function that takes the number of seconds and returns the digital format clock time as a string. Time should be counted from 00:00:00.
    - Examples: digitalClock(5025) as "01:23:45" 5025 seconds is 1 hour, 23 mins, 45 secs.
        - digitalClock(61201) as "17:00:01" No AM/PM. 24h format.
        - digitalClock(87000) as "00:10:00" It's 00:10 next day.

Hint on how to organize your folders and files

- Create a folder called "**Advanced JavaScript Algorithms**" in your Evangadi folder
- Inside your "**Advanced JavaScript Algorithms**" folder, create an html file called "**index.html**".
- Inside your "**Advanced JavaScript Algorithms**" folder, create a folder called "**JS**". Inside of your "**JS**" folder, create a file called "**script.js**"
- Link your "**script.js**" file in your HTML.
- Before you start writing your code, always test if your JavaScript file is linked correctly to your HTML. To test if your JS file is loaded correctly, type the following code and see if you get this alert message on your browser;
    - alert("your JS file is connected!!");
- To check the result of each code you write in the console, you will need to open your "**index.html**" file in browser, right click the page and select "**inspect**" and select "**console**"
- As specified in the questions, for questions from edabit, make sure to just copy the questions and work on your VSC rather than solving them on edabit.
- Now start working on your assignment. Happy coding!