DAY 3

1a. Print odd numbers in an array

(function(arr) {

for (let i = 0; i < arr.length; i++) {

if (arr[i] % 2 !== 0) {

console.log(arr[i]);

}

}

})([1, 2, 3, 4, 5, 6, 7, 8, 9]);

1b. Convert all the strings to title caps in a string array

(function(strings) {

for (let i = 0; i < strings.length; i++) {

strings[i] = strings[i].charAt(0).toUpperCase() + strings[i].slice(1).toLowerCase();

}

console.log(strings);

})(["hello world", "javascript is awesome", "title case example"]);

1c. Sum of all numbers in an array

(function(numbers) {

let sum = 0;

for (let i = 0; i < numbers.length; i++) {

if (typeof numbers[i] === 'number') {

sum += numbers[i];

}

}

console.log("Sum of the numbers: " + sum);

})([1, 2, 3, 4, 5, 'six', 7, 8, 9]);

1d. Return all the prime numbers in an array

(function(numbers) {

function isPrime(num) {

if (num <= 1) return false;

for (let i = 2; i <= Math.sqrt(num); i++) {

if (num % i === 0) {

return false;

}

}

return true;

}

const primeNumbers = numbers.filter(function(num) {

return isPrime(num);

});

console.log("Prime numbers in the array: " + primeNumbers);

})([1, 2, 3, 4, 5, 6, 7, 8, 9, 10]);

1e. Return all the palindromes in an array

(function(words) {

function isPalindrome(word) {

const reversedWord = word.split('').reverse().join('');

return word === reversedWord;

}

const palindromeWords = words.filter(function(word) {

return isPalindrome(word);

});

console.log("Palindromes in the array: " + palindromeWords);

})(["level", "radar", "hello", "deed", "world"]);

1. 1f. Return median of two sorted arrays of the same size.

(function(arr1, arr2) {

const mergedArray = arr1.concat(arr2);

const sortedArray = mergedArray.sort((a, b) => a - b);

const length = sortedArray.length;

const mid = Math.floor(length / 2);

if (length % 2 === 0) {

const median = (sortedArray[mid - 1] + sortedArray[mid]) / 2;

console.log("Median of the two sorted arrays: " + median);

} else {

const median = sortedArray[mid];

console.log("Median of the two sorted arrays: " + median);

}

})([1, 3, 5], [2, 4, 6]);

1g. Remove duplicates from an array

(function(arr) {

const uniqueArray = arr.filter(function(value, index, self) {

return self.indexOf(value) === index;

});

console.log("Array with duplicates removed: " + uniqueArray);

})([1, 2, 2, 3, 4, 4, 5]);

1h. Rotate an array by k times

(function(arr, k) {

const rotateArray = function(arr, k) {

for (let i = 0; i < k; i++) {

const element = arr.pop();

arr.unshift(element);

}

return arr;

};

const rotatedArray = rotateArray(arr, k);

console.log("Array after rotating by " + k + " times: " + rotatedArray);

})([1, 2, 3, 4, 5], 2);

2a. Print odd numbers in an array

const numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9];

const oddNumbers = numbers.filter(number => number % 2 !== 0);

console.log("Odd numbers in the array: " + oddNumbers);

2b. Convert all the strings to title caps in a string array

const strings = ["hello world", "javascript is awesome", "title case example"];

const titleCapsArray = strings.map(str => str.split(' ').map(word => word.charAt(0).toUpperCase() + word.slice(1).toLowerCase()).join(' '));

console.log(titleCapsArray);

2c. Sum of all numbers in an array

const numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9];

const sum = numbers.reduce((accumulator, currentValue) => accumulator + currentValue, 0);

console.log("Sum of the numbers: " + sum);

2d. Return all the prime numbers in an array

const numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];

const isPrime = num => {

if (num <= 1) return false;

for (let i = 2; i <= Math.sqrt(num); i++) {

if (num % i === 0) {

return false;

}

}

return true;

};

const primeNumbers = numbers.filter(num => isPrime(num));

console.log("Prime numbers in the array: " + primeNumbers);

2e. Return all the palindromes in an array

const words = ["level", "radar", "hello", "deed", "world"];

const isPalindrome = word => {

const reversedWord = word.split('').reverse().join('');

return word === reversedWord;

};

const palindromeWords = words.filter(word => isPalindrome(word));

console.log("Palindromes in the array: " + palindromeWords);