1.

a. To print odd numbers in a array

var array = [1, 2, 3, 4, 5, 6, 7, 8, 9];

(function() {

for (var i = 0; i < array.length; i++) {

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

console.log(array[i]);

}

}

})();

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

var array = ["apple", "banana", "cherry", "date", "elderberry"];

(function() {

for (var i = 0; i < array.length; i++) {

var words = array[i].split(' ');

for (var j = 0; j < words.length; j++) {

words[j] = words[j].charAt(0).toUpperCase() + words[j].slice(1);

}

array[i] = words.join(' ');

}

console.log(array);

})();

c. Sum of all numbers in an array using anonymous function & IIFE

var array = [1, 2, 3, 4, 5];

(function() {

var sum = 0;

for (var i = 0; i < array.length; i++) {

sum += array[i];

}

console.log(sum);

})();

d. Return all the prime numbers in an array

var array = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];

(function() {

var primes = [];

for (var i = 0; i < array.length; i++) {

var number = array[i];

if (isPrime(number)) {

primes.push(number);

}

}

function isPrime(num) {

if (num <= 1) {

return false;

}

for (var i = 2; i < num; i++) {

if (num % i === 0) {

return false;

}

}

return true;

}

console.log(primes);

})();

e. Return all the palindromes in an array using anonymous function & IIFE

var array = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20];

(function() {

var palindromes = [];

for (var i = 0; i < array.length; i++) {

var number = array[i];

if (isPalindrome(number)) {

palindromes.push(number);

}

}

function isPalindrome(num) {

var strNum = String(num);

var reversedStrNum = strNum.split('').reverse().join('');

return strNum === reversedStrNum;

}

console.log(palindromes);

})();

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

var array1 = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20];

var array2 = [11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50];

(function() {

var mergedArray = [];

var i = 0;

var j = 0;

while (i < array1.length && j < array2.length) {

if (array1[i] < array2[j]) {

mergedArray.push(array1[i]);

i++;

} else {

mergedArray.push(array2[j]);

j++;

}

}

while (i < array1.length) {

mergedArray.push(array1[i]);

i++;

}

while (j < array2.length) {

mergedArray.push(array2[j]);

j++;

}

var median;

if (mergedArray.length % 2 === 0) {

median = (mergedArray[mergedArray.length / 2 - 1] + mergedArray[mergedArray.length / 2]) / 2;

} else {

median = mergedArray[Math.floor(mergedArray.length / 2)];

}

console.log(median);

})();

g. Remove duplicates from an array

var array = [1, 2, 3, 3, 4, 4, 4, 5, 5, 5, 5];

(function() {

var uniqueArray = [];

array.forEach(function(item) {

if (uniqueArray.indexOf(item) === -1) {

uniqueArray.push(item);

}

});

console.log(uniqueArray);

})();

H. Rotate an array by k times

var array = [1, 2, 3, 4, 5, 6, 7];

var k = 3;

(function() {

var n = array.length;

var r = n - (k % n);

var rotatedArray = array.slice(r).concat(array.slice(0, r));

console.log(rotatedArray);

})();

2.

a. let array = [1, 2, 3, 4, 5, 6, 7, 8, 9];

let oddNumbers = array.filter(number => number % 2 !== 0);

console.log(oddNumbers);

b. let array = ["apple", "banana", "cherry"];

let result = array.map(str => str.charAt(0).toUpperCase() + str.slice(1));

console.log(result);

c. let array = [1, 2, 3, 4, 5];

let result = array.reduce((acc, num) => acc + num, 0);

console.log(result);

d. let array = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];

let isPrime = num => {

if (num < 2) return false;

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

if (num % i === 0) return false;

}

return true;

};

let primeNumbers = array.filter(isPrime);

console.log(primeNumbers);

e. let array = [123, 121, 345, 343, 456, 1221, 789, 11211, 12321, 54321];

let isPalindrome = num => {

let strNum = num.toString();

let reversedStrNum = strNum.split('').reverse().join('');

return strNum === reversedStrNum;

};

let palindromes = array.filter(isPalindrome);

console.log(palindromes);