JavaScript - Day -5: Functions:

1. Do the below programs in anonymous function and IIFE
   1. Print off numbers in an array

**Anonymous functions**:

const numbers = [1, 2, 3, 4, 5];

const printNumbers = function(arr) {

arr.forEach(number => {

console.log(number);

});

};

printNumbers(numbers);

**IIFE:**

const numbers = [1, 2, 3, 4, 5];

(function(arr) {

arr.forEach(number => {

console.log(number);

});

})(numbers);

* 1. convert all the strings to title caps in a string array

**Anonymous**:

const stringArray = ["hello", "world", "openai", "chatbot"];

const convertToTitleCase = function(arr) {

return arr.map(string => {

return string.charAt(0).toUpperCase() + string.slice(1).toLowerCase();

});

};

const titleCaseArray = convertToTitleCase(stringArray);

console.log(titleCaseArray);

**IIFE**:

const stringArray = ["hello", "world", "openai", "chatbot"];

const titleCaseArray = (function(arr) {

return arr.map(string => {

return string.charAt(0).toUpperCase() + string.slice(1).toLowerCase();

});

})(stringArray);

console.log(titleCaseArray);

1. sum of all numbers in an array

**Anonymous**;

const stringArray = ["hello", "world", "openai", "chatbot"];

const convertToTitleCase = function(arr) {

return arr.map(string => {

return string.charAt(0).toUpperCase() + string.slice(1).toLowerCase();

});

};

const titleCaseArray = convertToTitleCase(stringArray);

console.log(titleCaseArray);

**IIFE**:

const stringArray = ["hello", "world", "openai", "chatbot"];

const titleCaseArray = (function(arr) {

return arr.map(string => {

return string.charAt(0).toUpperCase() + string.slice(1).toLowerCase();

});

})(stringArray);

console.log(titleCaseArray);

1. .return all the prime numbers in an array

**Anonymous**:

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

const isPrime = function(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 = function(arr) {

return arr.filter(num => isPrime(num));

};

const result = primeNumbers(numbers);

console.log(result);

**IIFE**:

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

const isPrime = function(num) {

if (num <= 1) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

};

const result = (function(arr) {

return arr.filter(num => isPrime(num));

})(numbers);

console.log(result);

5. return all palindromes in an array

**Anonymous**:

const words = ["level", "hello", "racecar", "world", "madam"];

const isPalindrome = function(word) {

const reversed = word.split("").reverse().join("");

return word === reversed;

};

const palindromeWords = function(arr) {

return arr.filter(word => isPalindrome(word));

};

const result = palindromeWords(words);

console.log(result);

**IIFE**:

const words = ["level", "hello", "racecar", "world", "madam"];

const isPalindrome = function(word) {

const reversed = word.split("").reverse().join("");

return word === reversed;

};

const result = (function(arr) {

return arr.filter(word => isPalindrome(word));

})(words);

console.log(result);

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

**Anonymous**;

const array1 = [1, 3, 5];

const array2 = [2, 4, 6];

const findMedianSortedArrays = function(nums1, nums2) {

const mergedArray = [...nums1, ...nums2].sort((a, b) => a - b);

const midIndex = Math.floor(mergedArray.length / 2);

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

return (mergedArray[midIndex - 1] + mergedArray[midIndex]) / 2;

} else {

return mergedArray[midIndex];

}

};

const median = findMedianSortedArrays(array1, array2);

console.log(median);

**IIFE**:

const array1 = [1, 3, 5];

const array2 = [2, 4, 6];

const median = (function(nums1, nums2) {

const mergedArray = [...nums1, ...nums2].sort((a, b) => a - b);

const midIndex = Math.floor(mergedArray.length / 2);

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

return (mergedArray[midIndex - 1] + mergedArray[midIndex]) / 2;

} else {

return mergedArray[midIndex];

}

})(array1, array2);

console.log(median);

7. Remove duplicates from an array

**Anonymous**:

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

const uniqueArray = function(arr) {

return arr.filter(function(value, index, self) {

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

});

}(array);

console.log(uniqueArray);

**IIFE**:

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

const uniqueArray = (function(arr) {

return arr.filter(function(value, index, self) {

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

});

})(array);

console.log(uniqueArray);

8. Rotate an array by k times.

**Anonymous**:

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

const k = 3;

const rotateArray = function(arr, k) {

const rotations = k % arr.length;

const rotated = [...arr.slice(rotations), ...arr.slice(0, rotations)];

return rotated;

}(array, k);

console.log(rotateArray);

**IIFE**:

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

const k = 3;

const rotateArray = (function(arr, k) {

const rotations = k % arr.length;

const rotated = [...arr.slice(rotations), ...arr.slice(0, rotations)];

return rotated;

})(array, k);

console.log(rotateArray);

2.Do the programs using Arrow functions

1. print odd numbers in an array

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

const printOddNumbers = arr => {

arr.forEach(element => {

if (element % 2 !== 0) {

console.log(element);

}

});

};

printOddNumbers(array);

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

const stringArray = ["hello", "world", "javascript", "example"];

const convertToTitleCaps = arr => {

const titleCapsArray = arr.map(element => {

return element.charAt(0).toUpperCase() + element.slice(1);

});

return titleCapsArray;

};

const titleCapsArray = convertToTitleCaps(stringArray);

console.log(titleCapsArray);

3. Sum of all numbers in an array

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

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

console.log(sum);

4. return all the prime numbers in an array

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

const isPrime = num => {

if (num < 2) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

};

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

console.log(primeNumbers);

5. return all the palindromes inn an array

const array = ["level", "hello", "racecar", "world", "madam"];

const isPalindrome = str => {

const reversedStr = str.split("").reverse().join("");

return str === reversedStr;

};

const palindromes = array.filter(str => isPalindrome(str));

console.log(palindromes);