Do the below programs in anonymous function & IIFE

1. Print odd numbers in an array
2. Convert all the strings to title caps in a string array
3. Sum of all numbers in an array
4. Return all the prime numbers in an array
5. Return all the palindromes in an array
6. Return median of two sorted arrays of the same size.
7. Remove duplicates from an array
8. Rotate an array by k times
9. **Print odd numbers in an array:**

**For Anonymous function**

let oddNumbers = function(arr) {

arr.forEach(function(num) {

if (num % 2 !== 0) {

console.log(num);

}

});

}

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

**For IIFE**

(function(arr) {

arr.forEach(function(num) {

if (num % 2 !== 0) {

console.log(num);

}

});

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

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

**For Anonymous function**

let titleCaps = function(arr) {

return arr.map(function(str) {

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

});

}

console.log(titleCaps(["this", "is", "a", "test"]));

**For IIFE**

let titleCaps = (function(arr) {

return arr.map(function(str) {

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

});

})(["this", "is", "a", "test"]);

console.log(titleCaps);

1. **Sum of all numbers in an array:**

**For Anonymous function**

let sum = function(arr) {

return arr.reduce(function(total, num) {

return total + num;

});

}

console.log(sum([1, 2, 3, 4, 5]));

**For IIFE**

let sum = (function(arr) {

return arr.reduce(function(total, num) {

return total + num;

});

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

console.log(sum);

1. **Return all the prime numbers in an array:**

**For Anonymous function**

let primes = function(arr) {

return arr.filter(function(num) {

if (num <= 1) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

});

}

console.log(primes([1, 2, 3, 4, 5, 6, 7, 8, 9, 10]));

**For IIFE**

let primes = (function(arr) {

return arr.filter(function(num) {

if (num <= 1) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

});

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

console.log(primes);

1. **Return all the palindromes in an array:**

**Anonymous function:**

let palindromes = function(arr) {

return arr.filter(function(str) {

return str === str.split('').reverse().join('');

});

}

console.log(palindromes(["racecar", "apple", "deified", "banana"]));

**IIFE:**

let palindromes = (function(arr) {

return arr.filter(function(str) {

return str === str.split('').reverse().join('');

});

})(["racecar", "apple", "deified", "banana"]);

console.log(palindromes);

1. **Return median of two sorted arrays of the same size:**

**Anonymous function:**

let median = function(arr1, arr2) {

let combinedArr = arr1.concat(arr2).sort(function(a, b) {

return a - b;

});

let midIndex = Math.floor(combinedArr.length / 2);

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

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

} else {

return combinedArr[midIndex];

}

}

console.log(median([1, 3, 5], [2, 4, 6]));

**IIFE:**

let median = (function(arr1, arr2) {

let combinedArr = arr1.concat(arr2).sort(function(a, b) {

return a - b;

});

let midIndex = Math.floor(combinedArr.length / 2);

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

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

} else {

return combinedArr[midIndex];

}

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

console.log(median);

1. **Remove duplicates from an array:**

**Anonymous function:**

let removeDuplicates = function(arr) {

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

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

});

}

console.log(removeDuplicates([1, 2, 2, 3, 4, 4, 5]));

**IIFE:**

let removeDuplicates = (function(arr) {

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

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

});

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

console.log(removeDuplicates);

1. **Rotate an array by k times:**

**Anonymous function:**

let rotate = function(arr, k) {

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

arr.unshift(arr.pop());

}

return arr;

}

console.log(rotate([1, 2, 3, 4, 5], 3));

**IIFE:**

let rotate = (function(arr, k) {

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

arr.unshift(arr.pop());

}

return arr;

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

console.log(rotate);

**II. Do the below programs in arrow functions.**

1. **Print odd numbers in an array**
2. **Convert all the strings to title caps in a string array**
3. **Sum of all numbers in an array**
4. **Return all the prime numbers in an array**
5. **Return all the palindromes in an array**

**1. Print odd numbers in an array:**

const printOddNumbers = (arr) => {

arr.forEach((num) => {

if (num % 2 !== 0) {

console.log(num);

}

});

};

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

const toTitleCaps = (arr) => {

return arr.map((str) => {

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

});

};

**3. Sum of all numbers in an array:**

const sumOfNumbers = (arr) => {

return arr.reduce((acc, curr) => {

return acc + curr;

}, 0);

};

**4. Return all the prime numbers in an array:**

const isPrime = (num) => {

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

if (num % i === 0) {

return false;

}

}

return num !== 1;

};

const getPrimeNumbers = (arr) => {

return arr.filter((num) => {

return isPrime(num);

});

};

**5. Return all the palindromes in an array:**

const isPalindrome = (str) => {

const len = str.length;

for (let i = 0; i < len / 2; i++) {

if (str[i] !== str[len - 1 - i]) {

return false;

}

}

return true;

};

const getPalindromes = (arr) => {

return arr.filter((str) => {

return isPalindrome(str);

});

};