1.Do the below programs in anonymous function &IIFE

A. print odd numbers in an array

```
const oddfunction = function (values) {
  console.log("odd values", values);
};
const values = [3, 5, 7, 9];
for (let i = 0; i < values.length; i++) {
  console.log(values[i]);
}
oddfunction(values);
```

Result:

[3,4,5,7,9]

B. convert all the strings to title caps in a strings array

```
const string2 = function (alphabets) {
  const uppercaseString = alphabets.toUpperCase();
  console.log("string has been changed to caps", uppercaseString);
  return uppercaseString; // Returning the uppercase string
};

const string3 = string2("guvi");
console.log(string3);
```

Result:

GUVI

C. Sum of all numbers in an array

```
const array=[3,4,5,6,7];
console.log(array)
let sum=0;
for(let i=0;i<array.length;i++){
    sum+=array[i];
    console.log(sum);
}
```

Result:

3 7 12 18 25

D. Return all the prime numbers in an array

```
function isPrime(num) {
    if (num <= 1) return false;
    if (num <= 3) return true;

    if (num % 2 === 0 || num % 3 === 0) return false;

    for (let i = 5; i * i <= num; i += 6) {
        if (num % i === 0 || num % (i + 2) === 0) return false;
    }
    return true;
}

function getPrimes(start, end) {
    const primes = [];
    for (let num = start; num <= end; num++) {
        if (isPrime(num)) {
            primes.push(num);
        }
    }
    return primes;
}

const startRange = 1;
const endRange = 100;
const primeNumbers = getPrimes(startRange, endRange);
console.log(`Prime numbers between ${startRange} and ${endRange}:`,
primeNumbers);
```

Result:

Prime numbers between 1 and 100: (25) [2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97]

E. Return all the prime numbers in an array

```
function isPalindrome(num) {
    const str = num.toString();
    return str === str.split('').reverse().join('');
}

function findPalindromes(arr) {
    return arr.filter(isPalindrome);
}

const array2 = [2, 3, 4, 55, 6, 7];
```

```
console.log(findPalindromes(array2));
```

Result:

2 3 4 55 6 7

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

```
function findMedianOfTwoSortedArrays(arr1, arr2) {
    let merged = [];
    let i = 0, j = 0;
    // Merge two sorted arrays
    while (i < arr1.length && j < arr2.length) {
        if (arr1[i] < arr2[j]) {
            merged.push(arr1[i++]);
        } else {
            merged.push(arr2[j++]);
        }
    }

    // Append remaining elements (if any)
    while (i < arr1.length) {
        merged.push(arr1[i++]);
    }
    while (j < arr2.length) {
        merged.push(arr2[j++]);
    }

    // Find median
    let totalLength = merged.length;
    let middle = Math.floor(totalLength / 2);

    if (totalLength % 2 === 0) {
        return (merged[middle - 1] + merged[middle]) / 2;
    } else {
        return merged[middle];
    }
}

// Example usage
const array1 = [1, 3, 5];
const array2 = [2, 4, 6];

console.log(findMedianOfTwoSortedArrays(array1, array2));
```

Result:

3.5

G. Remove duplicates from an array

```
const array = [2, 2, 3, 3, 4, 5, 6, 6];

// Convert the array to a set to remove duplicates
const uniqueSet = new Set(array);

// Convert the set back to an array
const uniqueArray = [...uniqueSet];

console.log(uniqueArray);
```

Result:
[2,3,4,5,6]

H. Rotate an array by k times

```
function rotateArray(arr, k) {
    const n = arr.length;
    // Normalize k to avoid unnecessary rotations
    k = k % n;

    for (let i = 0; i < k; i++) {
      arr.unshift(arr.pop());
    }
  }

  const array = [2, 3, 4, 5, 6];
  rotateArray(array, 2); // Rotate the array 2 times
  console.log(array);
```

Result:
[5,6,2,3,4]

2.Do the below programs in arrow functions

A. Print odd numbers in an array.

```
 const array = [2, 3, 4, 5, 6, 7, 8, 9];
console.log(array);

array.forEach(element => {
  if (element % 2 !== 0) {
    console.log(element);
```

```
  }
});
```

Result:
3 5 7 9

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

```
  const strings = ["my name is jinu"];
  console.log(strings);

  // Function to convert a single string to title case
  const toTitleCase = str => str
    .toLowerCase()
    .split(' ')
    .map(word => word.charAt(0).toUpperCase() + word.slice(1))
    .join(' ');

  // Apply the function to each string in the array
  const titleCasedStrings = strings.map(toTitleCase);
  console.log(titleCasedStrings);
```

Result:
[MY NAME IS JINU]

C. Sum of all numbers in array

```
  const array=[2,3,4,5,6];
   console.log(array);
  let sum = 0;
array.forEach((item) => {
  sum += item;
  console.log(sum);
});
```

Result:
20

D. Return the all primes numbers in array

```
const array = [2, 3, 4, 5, 6];

// Arrow function to check if a number is prime
const isPrime = num => {
  if (num <= 1) return false;
  if (num <= 3) return true;

  // Check from 2 to sqrt(num)
  for (let i = 2; i <= Math.sqrt(num); i++) {
```

```
    if (num % i === 0) return false;
  }
  return true;
};

// Use filter method with arrow function to get primes
const primeNumbers = array.filter(isPrime);

console.log(primeNumbers);
```

Result:

[2,3,5]

E. Return the all palindromes in array

```
const array = ["racecar", "instasunai", "sunainsta","madam","level"];

const isPalindrome = str => {
    const reversed = str.split('').reverse().join('');
    return str === reversed;
};

const palindromes = array.filter(isPalindrome);

console.log(palindromes);
```

Result:
[racecar,madam,level]