**JAVASCRIPT**

CHECK PRIME OR NOT

```javascript
function primeOrNot(num) {

var isPrime = true;

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

if(num%i==0) {

isPrime = false;

break;

}

} if(isPrime) {

console.log(The given number ${num} is prime`);

}else {

console.log('The given number ${num} is not a prime`);

}

}

primeOrNot(5);

primeOrNot (4);
```

--------------------------------------------------------------------------------------------------------

ARMSTRONG OR NOT

```javascript
function isArmstrongNumber(num) {
```

```
let sun 0;

let temp num;

const numberOfDigits num.toString().length;

while (temp > 0) {

let digit temp % 10;

sum += Math.pow(digit, numberOfDigits);

temp Math.floor(temp/10);

}

return sum == num ? ${num) is an Armstrong number. $(num) is not an Armstrong
number.";

console.log(isArmstrong Number(153));

console.log(isArmstrongNumber(123));
```

------------------------------------------------------------------------------------------------------------

FIBONACCI SERIES UPTO GIVEN RANGE:

```
function fibo(start, end) {

let n1 = start;

let n2 = start+1;

let n3 = 0;

console.log(n1);

console.log(n2);
```

```
while(n3<=end) {

n3 = n1+n2; if(n3 > end) { break; } console.log(n3); n1 = n2; n2 = n3; }

fibo(0,10);
```

----------------------------------------------------------------------------------------------------

LEAP YEAR:

```
function leapYear(year){

if((year%4==0&& year % 100 !==0) || (year % 400 == 0)){ console.log(`${year} is a leap
year`);

} else {

console.log(`${year} is not a leap year`)

}
}

leapYear (2023);

leapYear (2024);
```

----------------------------------------------------------------------------------------------------

JS CODE TO REVERSE THE NUMBER

```
<body>

<h2>Reverse a Number</h2>

<form id="reverseForm">


<input type="number" id="numberInput" placeholder="Enter a number" required>
```

```
<button type="submit">Reverse</button>

</form>

<div id="result"></div>

<script>

document.getElementById('reverseForm').addEventListener('submit', function(event) {

event.preventDefault();

let n = document.getElementById('numberInput').value;

let reversedNumber = n.split("").reverse().join("");

document.getElementById('result').textContent = "Reversed Number: " +
Number(reversedNumber);

});

</script>
```

--------------------------------------------------------------------------------------------------------

JS PROGRAM TO ACCEPT STRING AS PARAMETERS AND COUNTS THE
NUMBER OF VOWELS WITHIN THE STRING

```
<body>

<h2>Count Vowels in a String</h2>


<form id="vowelForm">

<input type="text" id="stringInput" placeholder="Enter a string" required>
```

```html
<button type="submit">Count Vowels</button>

</form>

<div id="result"></div>

<script>

function count Vowels(str) {

return str.match(/[aeiouAEIOU]/g)?.length || 0;

}


document.getElementById('vowelForm').addEventListener('submit', function(event) {


event.preventDefault();

let inputString = document.getElementById('stringInput').value;

let vowelcount = countVowels(inputString);

document.getElementById('result').textContent = "Number of vowels: " + vowelCount; });

</body>

</script>
```

-------------------------------------------------------------------------------------------------------------

JS PROGRAM TO GET CURRENT DATE

body>

```html
<h2>Get the Current Date</h2>

<button onclick="getCurrentDate()">Show Current Date</button>

<div id="dateDisplay"></div>

<script>

function getCurrentDate() {

let currentDate= new Date();

document.getElementById('dateDisplay').textContent = currentDate.toDateString();

}

</script>

</body>
```

----------------------------------------------------------------------------------------------------

COUNT NO OF DAYS BETWEEN TWO YEARS:

```html
body>

<h2>Calculate Days Between Two Years</h2>

<form id="daysForm">

<input type="number" id="year1" placeholder="Enter the first year" required> <input type="number" id="year2" placeholder="Enter the second year" required>

<button type="submit">Calculate Days</button>

</form>

<div id="result"></div>
```

```
<script>

function daysBetweenYears (year1, year2) {

let startDate=new Date(year1, 0, 1); let endDate = new Date(year2, 0, 1);

let timeDifference = Math.abs(endDate - startDate);

return Math.ceil(timeDifference / (1000606024));

}

document.getElementById('daysForm").addEventListener('submit', function(event) {

event.preventDefault();

let year1 document.getElementById('year1').value;

let year2 document.getElementById('year2').value; let daysCount daysBetweenYears
(year1, year2);

document.getElementById('result').textcontent = "Number of days: " + daysCount; ));

</script>

</body>
```

----------------------------------------------------------------------------------------------------

```
BIGGEST OF 3 NUM
function findLargestNumber(a, b, c) {

if (a > b && a>= c) {

return a;

} else if (b>= a && b = c) {

return b;
```

```
} else {

return c;

}
}

let num3= parseFloat(prompt("Enter the third number: ")); let largestNumber
findLargestNumber(num1, num2, num3);
alert("The largest number is: "+ largestNumber);
```

-------------------------------------------------------------------------------------------------------

```
FACTORIAL OF GIVEN NUM
function factorial(n) {

 if (n < 0) {


return "Factorial is not defined for negative numbers.";

} else if ( n ===0 || n ===1)
{


 } else {



return 1;

let result = 1;

for (let 12; i <= n i ++) {

 }
```

```
result *= 1

 }

return result;

 }


let number = parseInt(prompt("Enter a number to find its factorial:"), 10 );

 let result factorial(number);

 alert("The factorial of number is result);
```

----------------------------------------------------------------------------------------------------

SUM OF DIGITS KF GIVEN NUM

```
Function sumOfDigits(number) {

let sum = 0;

 while (number) {

 sum number % 10;

 }

number Math.floor(number/10);

return sum;

}
 let input prompt("Enter a number to find the sum of its digits:");

 let number parseInt(input, 10);
```

```javascript
If (isNaN(number)) {
alert("Invalid input. Please enter a valid number.");

} else (

 let result sumOfDigits (Math.abs(number));


alert("The sum of the digits of number is result);
}
```

CONVERT TEM TO CEL, FAHRENHEIT

```javascript
function celsiusToFahrenheit(celsius) { return (celsius 9/5) 32:


}

function fahrenheitToCelsius(fahrenheit) ( return (fahrenheit 32) 5/9;

let choice prompt("Enter 'C' to convert Celsius to Fahrenheit or 'F' to convert Fahrenheit

to Celsius:").coUpperCase():

if (choice == 'C') {

// Get Celsius input from the user

let celsius parseFloat(prompt("Enter cemperature in Celsius: "));

if (isNaN(celsius)) {

alert("Invalid input. Please enter a valid number.");

} else {

// Convert to Fahrenheit
```

```
let fahrenheit celsiusToFahrenheit (celsius);

alert(celsius C is equal to fahrenheit.toFixed(2) *F*):

 else if (choice 'F) (


let fahrenheit parseFloat(prompt("Enter temperature in Fahrenheit."));

If (isNaN(fahrenheit)) {

alert("Invalid Input Please enter a valid number.");

} else {


else {

let celsius fahrenheitToCelsius (fahrenheit);

alert(fahrenheit F is equal to celsius.toFixed(2)"C");


alert("Invalid choice. Please enter 'C' or 'F
```

----------------------------------------------------------------------------------------------------

INDIAN RUPEE TO US DOLLOR

```
Function convert Rupees ToDollars(rupees, conversionRate) {

return rupees conversionRate;

}

let rupees parseFloat(prompt("Enter amount in Indian Rupees (INR):")); let
conversionRate 0.012;
```

```
if (isNaN(rupees)) {

alert("Invalid input. Please enter a valid number.");

}
else
{

let dollars alert(rupees. convertRupees ToDollars (rupees, conversionRate); INR is
equal to " dollars.toFixed(2) + USD");
}
```

--------------------------------------------------------

## JSON

Create js object from JSON

```
DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

</head>

<title>Document</title>

<body>

<script>

const jsonString = '{"EmpNo": 4, "EmpName": "prasanth", "Age": 21, "Salary": 50000}';

const employeeobject = JSON.parse(jsonString);
```

```javascript
console.log(employeeobject);

console.log("Employee Number:", employeeObject.EmpNo); console.log("Employee
Name:", employeeObject.EmpName);

console.log("Age:", employeeObject.Age);

console.log("Salary:", employeeObject.Salary);


</script>

</body>

</html>
```

JS OBJECT FROM JSON STRING AND MODIFY A VALUE A VALUE

```html
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Document</title>

</head>

<body>

<script>

const jsonString = '{"EmpNo": 101, "EmpName": "John Doe", "Age": 30, "Salary":
50000}';
```

```javascript
const employeeObject = JSON.parse(jsonString);

console.log("original object:", employeeobject);

 employeeObject.EmpName = "akshay";


console.log("Modified Object:", employeeObject);

 console.log("Updated salary:", employeeObject.EmpName);

</script>

</body>

</html>
```

----------------------------------------------------------------------------------------------------

PROGRAM TO CONVERT JSON ARRAY TO JS ARRAY AND PRINT A SPECIFIC VALUE

```html
DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Document</title>

</head>

<body>

<script>
```

```
// 350N Array String

const jsonArrayString = [

("EmpNo": 101, "EmpName": "akshayaprasanth", "Age": 30, "Salary": 50000},
{"EmpNo": 102, "EmpName": "Jane Smith", "Age": 28, "Salary": 60000),

{"EmpNo": 103, "EmpName": "Sam Brown", "Age": 35, "Salary": 55000)

const employeesArray 350N.parse(jsonArrayString);

console.log("Employees Array:", employeesArray);

const secondEmployeeName employeesArray[0]. EmpName;

console.log("Second Employee Name:", secondEmployeeName);

</script>

</body>

 </html>
```

----------------------------------------------------------------------------------------------------

Write a js program to parse the Js object in to JSON string and store it in the local storage. Retrieve it from the storage and print it as js object.

```
<html lang="en">

<head>

</head>

<body>


<script>
```

```
const employeeobject = {

EmpNo: 104,

EmpName: "Akshayaprasanth Y",

Age: 21,

Salary: 50000

};

const jsonString = JSON.stringify(employeeObject);

 localstorage.setItem('employeeData', jsonString);

const retrieved3sonString = localstorage.getItem('employeeData');

 const retrievedEmployeeObject JSON.parse(retrievedJsonString);

 console.log("original object:", employeeObject);

 console.log("Retrieved object from Local Storage:", retrievedEmployeeObject);

 </script>

 </body>

 </html>
```

---------------------------------------------------------

**WEB SERVICES**

1. Write a program to implement a web service for receiving your name as input and print Hello followed by your name.
PROGRAM :

```
public class first {
public String getname(String name) {
return "Hello "+name;

}
}
```

------------------------------------------------------------------------------------------------------------

2. Create a web service for arithmetic calculation
 PROGRAM :

```
public class arithmetic {
public int add(int a,int b){
return a+b;

}
public int sub(int a,int b){
return a-b;

}
public int mul(int a,int b){
return a*b;

}
public int div(int a,int b){
return a/b;

}
}
```

------------------------------------------------------------------------------------------------------------

3. Create a web service to find biggest of given two numbers
PROGRAM :

```
public class biggest {
public String getbiggest(int num1,int num2){ if(num1>num2){
return num1+" is the biggest number";
```

```
    }
    else{



    }
  }
}
```

 ----------------------------------------------------------------------------------------------------

4. Create a web service to calculate area and perimeter of a circle
PROGRAM :

```
public class circle {
public String getArea(double r){ double area = 3.14*r*r; return "Area: "+area;
}
public String getPerimeter(double r){ double perimeter = 2*3.14*r; return "Perimeter:
"+perimeter;
}
}
```

5. Create a web service to get animal name as input and find it as domestic or wild
animal.
Code:

```
package ex;
public class AnimalController {
    public String classifyAnimal(String name) {
        if (isDomestic(name)) {
            return name + " is a domestic animal.";
        } else {
            return name + " is a wild animal.";
        }
    }
    private boolean isDomestic(String name) {
        String[] domesticAnimals = {"dog", "cat", "cow", "sheep", "goat", "horse"};
        for (String animal : domesticAnimals) {
            if (animal.equalsIgnoreCase(name)) {
                return true;
            }
        }
        return false;
    }
```

```
}
```

6. Create web service to calculate the factorial of the given number
Code:
```
public class factorial {
public String getfact(int n){
int i,fact=1;
for(i=1;i<=n;i++){
fact = fact*i;
}
return "Factorial of "+n+" is "+fact;


}
```

7. Create a web service to find the given number is prime number or not.
Code:
```
public class prime {
public String getPrime(int num){
int i;
int flag = 0;
if( num==0 || num==1){
flag = 1;
}
for(i=2;i<=num/2;++i){
if(num%i==0){
flag = 1;
break;
}
}
if(flag==1){
return num+" is not a prime number";
}
else {
return num+" is a prime number";
}
}
}
```

8. Create a web service to check the given string is palindrome
Code:

```java
public class palindrome {
public String chkpalin(String str){
String reverseStr = "";
int strLength = str.length();
for (int i=(strLength-1);i>=0;--i){
reverseStr = reverseStr + str.charAt(i);
}
if(str.toLowerCase().equals(reverseStr.toLowerCase())){
return str+" is a Palindrome String";
}
else {
return str+" is not a Palindrom String";
}
}
}
```

9. Write a webservice to check the given number is number is Armstrong Number or not.
Program:

```java
package ex;

import java.util.Scanner;

public class Armstrong {
public static String armstrong(int n){
int copy=n,d=0,sum=0;
while(copy>0){
copy/=10;
d++;
}
copy=n;

while(copy>0){
sum+=Math.pow(copy%10, d);
copy/=10;
}
if(n==sum){
return n+" is an armstrong number.";
}
else{
```

```java
return n+" is not an armstrong number.";
}
}
public static void main(String[] args) {
Scanner sc=new Scanner(System.in);
int n=sc.nextInt();
armstrong(n);


}


}
```

10. Write a web Service to Check the given number is a palindrome or not
Program:
```java
package ex;
import java.util.Scanner;
public class PalindromeNo {
    public static String palindrome(int n){
    int rev=0,copy=n;
    while(copy>0){
    rev*=10;
    rev+=(copy%10);
    copy/=10;
    }
    if(n==rev){
return n+" is a palindrome.";
}
else{
return n+" is not a palindrome.";
}

    }
public static void main(String[] args) {
Scanner sc=new Scanner(System.in);
int n=sc.nextInt();
palindrome(n);


}


}
```

11. Write web Service to Check a candidate is eligible to vote or not.

Program:

```java
package ex;

import java.util.Scanner;

public class EligibleOrNot {
  public static String eligible(int n){
  if(n>=18){
  return "You are eligible to vote.";
  }
  else{
  return "You are not eligible to vote.Bacuase your age is "+n+" Elgible age is 18 or above.";

  }
   }
public static void main(String[] args) {
Scanner sc=new Scanner(System.in);
int n=sc.nextInt();
eligible(n);

}

}
```
-------------------------------------------------------------------------------------------------------------------
---