

```
// section 1 start values and variable *****
```

```
// Note :iska prayog jo bhi ham likhte hai use display karne ke liye karte hai
```

```
// console.log("Hello world");
```

```
// var myName = 'Neeraj kumar';
```

```
// var myAge = '20';
```

```
// console.log(myAge);
```

```
// console.log(myName);
```

```
// section 4 start Data types in javascript *****
```

```
// double port ke andar yadi ham english mein likhte hai to use string boltein hai
```

```
// var myName = "Neeraj kumar";
```

```
// console.log(myName);
```

```
// typeof operator#####
```

```
// // typeof operator ka prayog model type dekhne ke liye kartein hai
```

```
// // () isko parenthesis bolte hai
```

```
// // {} aur isko curli brushes bolte hai
```

```
// console.log(typeof(myName));
```

```
// *****Challange time *****Data type practice
```

```
// console.log(10 + "20");
```

```
// console.log(40-"30");
```

```
// console.log("java "+"script");
```

```
// console.log(""+"");
```

```
// console.log(""+"0");
```

```
// console.log("Neerj"-"kumar");
```

```
// console.log(true+true);
```

```
// console.log(true-false);
```

```
// console.log(false-true);
```

```
// solution 1*****
```

```
// isko /Ecponentiation operator(**) bolte hai
```

```
// is formule ka use power nikalne ke liye hota hai
```

```
// console.log(3**3);
```

```
// solution 2
```

```
// + mein theek dikhayega lekin - mein NaN dikhayega
```

```
// console.log( 5 + " Neeraj");
```

```
// console.log(5 - "Neeraj");
```

```
// // solution 3
```

```
// // var a = 5;
```

```
// // var b = 10;
```

```
// // question:- output b=5 and a=10
```

```
// // var c = b; c = 10
```

```
// // b = a; b = 5
```

```
// // a = c;
```

```
// // console.log("The value of a is " + a);
```

```
// // console.log("The value of b is " + b);
```

```
// // solution 4
```

```
// // var a = 5;
```

```
// // var b = 10;
```

```
// // output a=10 and b=5
```

```
// // without third variable ke
```

```
// // a = a + b; a=15;
```

```
// // b = a - b; b=5;
```

```
// // a = a - b; a=10;
```

```
// // console.log("The value of a is " + a);
```

```
// // console.log("The value of b is " + b);
```

```
// // *****Interview question 1*****
```

```
// // Difference between null vs undefined
```

```
// // data type check isse karte hai
```

```
// // console.log(typeof());
```

```
// var uselessCar = null;  
// console.log(uselessCar);  
// console.log(typeof(uselessCar));  
// 2bug in java script
```

```
// var iAmStandBy;  
// console.log(iAmStandBy);  
// console.log(typeof(iAmStandBy));
```

```
// // *****Interview question 2*****  
// // what is NaN?
```

```
// // var myPhoneNumber = 9540494104;  
// // var myName = "Neeraj kumar";
```

```
// // console.log(myPhoneNumber);  
// // console.log(myName);
```

```
// // console.log(isNaN(myPhoneNumber));  
// // console.log(isNaN(myName));
```

```
// // *****Interview question 3*****
```

```
// // What is difference between == vs ===?
```

```
// // solution
```

```
// // var num1 = 5;
```

```
// // var num2 = '5';
```

```
// // console.log(typeof(num1));
```

```
// // console.log(typeof(num2));
```

```
// // console.log(num1 == num2);
```

```
// var num1 = 5;
```

```
// var num2 = '5';
```

```
// console.log(typeof(num1));
```

```
// console.log(typeof(num2));
```

```
// console.log(num1 === num2);
```

```
// // Section 5 Airthmetic operators in Javascript #####
```

```
// // console.log(5 + 10);
```

```
// // console.log(10/2);
```

```
// // console.log(10*3);  
// // console.log(20-10);
```

```
// // console.log("Remainder operator " +27%4);
```

```
// // increment and dcreement operator *****
```

```
// // postfix operator (num++)
```

```
// var num = 15;
```

```
// var newNum = num++;
```

```
// console.log(num);
```

```
// console.log(newNum);
```

```
// // prefix operator(++num)
```

```
// var num = 15;
```

```
// var newNum = ++num;
```

```
// console.log(num);
```

```
// console.log(newNum);
```

```
// // conmpersion operator
```

```
// var a = 30;
```

```
// var b = 20;
```

```
// // Equal(==)  
// console.log(a == b);
```

```
// // Not equal(!=)  
// console.log(a != b);
```

```
// // Greater than  
// console.log(a > b);
```

```
// // Greater than or equal(>=)  
// console.log(a >= b)
```

```
// // Logical operators*****  
// // Logical operators are typically used with boolean  
// // When they are , they return boolean value
```

```
// var a = 30;  
// var b = -20;
```

```
// // logical and (&&)  
// // if ek bhi operato galat hai to answer false aayega  
// // console.log( a > b && b > -30 && a > 25);
```

```
// // Logical OR (||)  
// // ye sign Enter button ke upar waale button se aayga  
// // iske andar ek baar mein ek se jyada value likha sakein hai agar ek bhi value true hai to answer true aayega  
// // console.log((a > b) || (b > -50) || (b > a));
```

```
// // Logical Not (!)
// // logical not true ko false aur false ko true batata hai
// // console.log(!((a > b) || (b < 0)));
// // console.log(!false);
```

```
// // string concatenation (opereators)*****
// // string concatenation opereators (+) do value ko inclue karta hai
```

```
// console.log("Hellow world");
```

```
// // hellow ke baad mein space dene ke baad mein display par bhi space aayegaa
// console.log("Hello " + "world");
```

```
// var myName = "Avul";
```

```
// console.log(myName + "Pakir");
// console.log(myName + "Jainulabdeen");
// console.log(myName + "Abdul");
// console.log(myName + "Kalam");
```

```
// console.log(myName + " pakir Jainulabdeen Abdul Kalam");
```



```
// // section 6 controle statement#####
```

```
// // 1 If ...Else*/ important formula
```

```
// var tomr = "rain";
```

```
// if(tomr == "rain"){
```

```
// console.log("to take a rain coat");
```

```
// }else{
```

```
// console.log("no need to take a rain coat");
```

```
// }
```

```
// // var tomr = "sunny";
```

```
// // if(tomr == "rain"){
```

```
// // console.log("to take a rain coat");
```

```
// // }else{
```

```
// // console.log("no need to take a rain coat");
```

```
// // }
```

```
// // chalane time*****
```

```
// // write a program that works out whether if a given year is a leaf year or not ?
```

```
// var year = 2020;

// if(year % 4 === 0){
// if(year % 100 === 0){
// if(year % 400 === 0){
// debugger;
// console.log("the year " + year + " is a leap year");

// }else{
// console.log("the year " + year + "is not a leap year");
// }

// }else{
// console.log("the year " + year + " is a leap year");
// }

// }else{
// console.log("the year" + year + "is not a leap year");
// }

// // Truthy and falsy values in Javascript*****
// // We have total 5 falsy value in javascript
// // 0 , "" , undefined , null , NaN , false

// if(score = 0){
// console.log("Yay , we won the game");
```

```
// }else{  
// console.log("OMG, We lost the game");  
// }
```

```
// // conditional (ternary) operators*****  
// // ( If else ka short version hai (ternary) operators)  
// // The conditional (ternary) operators is the only javascript operators  
// // that take three operands
```

```
// var age = 18 ;
```

```
// if(age = 18){  
// console.log("You can vote");  
// }else{  
// console.log("you can't vote");  
// }
```

```
// // isi ko ternary operator se
```

```
// // var age = 17;  
// // console.log((age >= 18) ? "you can vote" : "you can't vote");
```

```
// // switch statement*****  
// var area = "square";
```

```
// var PI = 3.142, l=5 , b=4 ,r=3;
```

```
// if(area == "circle"){  
// console.log("the are of the circle is : " + PI*r**2);  
// }else if(area == "triangle"){  
// console.log("the are of the triange is : " + (l*b)/2);  
// }else if(area == "rectangle"){  
// console.log("the are of the rectangle is : " + (l*b));  
// }else{  
// console.log("please enter valid data");  
// }
```

```
// // switch statemet if else lese if else if ka short method hai
```

```
// var area = "circle";  
// var PI = 3.142, l=5 , b=4 ,r=3;
```

```
// switch(area){  
// case 'circle' :  
// console.log("the area of the circle is : " + PI*r**2);  
// case 'triangle' :  
// console.log("the area of the triange is : " + (l*b)/2);
```

```
// case 'rectangel' :  
// console.log("the area of the rectangle : " +(l*b));  
// default :  
// console.log("please enter valid data");  
// }
```

// // switch statement ke andar hame vo hi data chahiye jo hamne likha uske liye (break;) kar use karna hoga

```
// var area = "circle";
```

```
// var PI = 3.142, l=5 , b=4 ,r=3;
```

```
// switch(area){
```

```
// case 'circle' :
```

```
// console.log("the area of the circle is :"+ PI*r**2);
```

```
// break;
```

```
// case 'triangle' :
```

```
// console.log("the area of the triangle is :"+ (l*b)/2);
```

```
// break;
```

```
// case 'rectangel' :
```

```
// console.log("the area of the rectangle :"+ (l*b));
```

```
// break;
```

```
// default :
```

```
// console.log("please enter valid data");
```

```
// }
```

// // while loop statement most important formula #####

// // the while statement creates a loop that exceclutes spacified statement

// // as long as the test condition evaluates to true.

```
// // var num = 0;
```

```
// // while(num <= 10){
```

```
// // console.log(num);  
// // num++;  
// // }
```

// // Note :- if (num++) ko agar nahi likha jaaye to ye anant tak chalta rahega

// // Do-while loop statement#####

```
// // var num = 0;
```

```
// // do{  
// // console.log(num);  
// // num++;  
// // }while(num <= 10);
```

// // For loop #####

// // for loop 'while loop and do while loop' ka short version/good version hai?

```
// for(var num = 0; num <= 10; num++){  
// console.log(num);  
// }
```

```
// // challange time#####  
// // Javascript program to print table for given number (8)?
```

```
// for(var num = 1; num <= 10; num++){  
// var tableOf = 8;  
// console.log(tableOf + "*" + num + "=" + tableOf * num);  
// }
```

```
// for( var num = 1; num <=10; num++){  
// var tableof = 10;  
// console.log(tableof + "*" + num + "=" + tableof * num);  
// }
```

```
// // *****Functions in Javascript*****  
// // A javascript functions is a block of code designed to perform a particular task.
```

```
// // (1) Funtion in javascript#####  
// // function defination ko function declaration aur function statement bhi kahte hai
```

```
// // var a = 10;  
// // var b = 20;  
// // var sum = a+b;  
// // console.log(sum);
```

// // isi ko function defination se

```
// // function sum(){  
// // var a = 10 , b = 20;  
// // var total = a+b;  
// // console.log(total);  
// // }
```

// // (2) calling functions#####

// // function defination aur calling function milkar hi complete function banta hai

```
// // sum();
```

// // complete function

```
// // function sum(){  
// // var a = 10 , b = 20;  
// // var total = a+b;  
// // console.log(total);  
// // }
```

```
// // sum();
```



```
// // challange time?#####
```

```
// // What is the diffrence between  
// // Function parameter VS Function arguments
```

```
// // function sum(a,b){  
// // var total = a+b;  
// // console.log(total);  
// // }
```

```
// // sum(20,40);  
// // sum(30,70);  
// // sum(30,94);
```

```
// // 3 Function Expression#####
```

```
// // "function Expression simply means  
// // create a function and put in into to the variable funExp"
```

```
// // function sum(a,b){  
// // var total = a+b;  
// // console.log(total);  
// // }
```

```
// // var funExp = sum(20,40);
```

```
// // 4 Return keyword #####
```

```
// // function sum(a,b){  
// // return total = a+b;  
// // }
```

```
// // var funExp = sum(20,40);
```

```
// // console.log(funExp);
```

```
// // 5 Anonymous Function#####
```

```
// // var funExp = function(a,b){  
// // return total = a+b;  
// // }
```

```
// // var sum = funExp(52,70);  
// // var sum1 = funExp(20,20);
```

```
// // console.log('the sum two number is ' + sum);
```

```
// // console.log(sum > sum1);
```

```
// // *****#####*****#####*****#####
```

```
// //***** */ Now its time for modren JavaScript *****
```

```
// // Featlures of ECMAScript 2015 also non as ES6////////*****
```

```
// // (1) LET VS CONST vs VAR #####
```

```
// // Note : VAR aur LET ke andar ko value rakhate hai to usko change kar saktein hai
```

```
// // VAR####
```

```
// // var myName = "Neeraj kumar";
```

```
// // console.log(myName);
```

```
// // myName = "kandela shamli";
```

```
// // console.log(myName);
```

```
// // LET####
```

```
// // let myName = "Neeraj kumar";  
// // console.log(myName);
```

```
// // myName = "Kandela shamli";  
// // console.log(myName);
```

```
// // CONST#####  
// // const ke andar yadi koi value put ki to use change nahi kar saktein hai
```

```
// // const myName = "Neeraj kumar";  
// // console.log(myName);
```

```
// // myName = "Kandela shamli";  
// // console.log(myName);
```

```
// // var => Function scope^^^^^^^^^^^^^^  
// // LET and CONST => block scope^^^^^^^^^^^^^^
```

```
// // Var:-  
// function biodata(){  
//   var myFirstName = "Neeraj";  
//   console.log(myFirstName);
```

```
// if(true){  
//   var myLastName = "Kumar";  
//   console.log("inner " + myFirstName);
```

```
// console.log("inner " + myLastName);  
// }  
// console.log("innerouter " + myLastName);  
// }
```

```
// biodata();
```

```
// // Let:- keval " {} " ke andar hi data leta hai  
// function biodata(){  
// let myFirstName = "Neeraj";  
// console.log(myFirstName);
```

```
// if(true){  
// let myLastName = "Kumar";  
// console.log("inner " + myFirstName);  
// console.log("inner " + myLastName);  
// }  
// }
```

```
// biodata();
```

```
// // CONST :-  
// function biodata(){  
// const myFirstName = "Neeraj";  
// console.log(myFirstName);
```

```
// if(true){  
// const myLastName = "Kumar";
```

```
// console.log("inner " + myFirstName);  
// console.log("inner " + myLastName);  
// }  
// }
```

```
// // biodata();
```

```
// // (2) Template literals (Template strings)#####  
// // is fomule ke andar console.log`` ye sign esc button ke neeche hai
```

```
// for(let num = 1; num <= 10; num++){  
// let tableof =12;  
// // console.log(tableof + "*" + num + "=" + tableof * num);  
// console.log(`${tableof} * ${num} = ${tableof * num}`);  
// }
```

```
// // (3) Default parameter #####
```

```
// function mult(a,b=5){  
// return a*b;  
// }
```

```
// console.log(mult(3));
```

```
// // (4) Fat arrow function#####
```

```
// // Normal way of writing function
```

```
// function sum(){  
// let a = 5 , b = 6;  
// let sum = a + b;  
// return `The sum of two number is ${sum}`  
// }
```

```
// console.log(sum());
```

```
// // How to covert in Fat arrow (=>)
```

```
// const sum = () => `The sum of two number is ${a=5} + (b=6)}`;
```

```
// console.log(sum());
```

```
// // (5) Array in Javascript#####
```

```
// // var friend1 = "mohan";  
// // var friend2 = "rohan";  
// // var friend3 = "saurav";  
// // var friend4 = "gaurav";
```

```
// // console.log(friend1);  
// // console.log(friend2);  
// // console.log(friend3);  
// // console.log(friend4);
```

```
// // Array formele ki sahayta se  
// // Array ka index 0 se start hota aur serial wise chalta rahta hai  
// // array fomule ke andar ek se jyada value ko add kar sakte aur kuch bhi value add kar saktein hai
```

```
// // var myFriends = ["rohan" , "mohan" , "gaurav" , "Aman" ];
```

```
// // console.log(myFriends[myFriends.length - 1]);  
// // console.log(myFriends);
```

```
// // Note :- Sabhi naamo mein se ek naam display karana ho tab  
// // Answer type one  
// // console.log(myFriends[1]);
```

```
// // Note :- naam ki value 40 se 50 ho ya isse jyada ho tab  
// // length nikalne ke liye  
// // console.log(myFriends.length);
```

```
// // we use for loop to navigate#####
```

```
// // var myFriends = ["rohan" , "mohan" , "gaurav" , "Aman" ];
```



```
// // for(i = 0 ; i < myFriends.length ; i++){  
// // console.log(myFriends[i]);  
// // }
```

// // After Es6 We have for..in and for..of loop to#####

```
// // For in loop ki sahayta se :-  
// // index number provide karata hai  
// var myFriends = ["rohan" , "mohan" , "gaurav" , "Aman" ];  
// for(let elements in myFriends){  
// console.log(elements);  
// }
```

```
// // For of loop ki sahayta se :-  
// // hame sabhi naam provide karata hai  
// var myFriends = ["rohan" , "mohan" , "gaurav" , "Aman" ];  
// for(let elements of myFriends){  
// console.log(elements);  
// }
```

// // Array prototype forEach() #####

```
// var myFriends = ["rohan" , "mohan" , "gaurav" , "Aman" ];
```

```
// // Answer type one
// myFriends.forEach(function(elements , index , array){
// console.log(elements);
// });
```

```
// // Answer type two
// // myFriends.forEach(function(elements , index ,array){
// // console.log(elements + "index : " + index);
// // });
```

```
// // Answer type two
// // myFriends.forEach(function(elements , index ,array){
// // console.log(elements + " index : " + index + " " + array);
// // });
```

```
// // Formula Fat arrow Function ( =>)
// // myFriends.forEach((elements , index ,array) => {
// // console.log(elements + " index : " + index + " " + array);
// // }
```

```
// Push metod#####
```

```
// const animals = ['pigs' , 'gaots' , 'sheeps'];
```

```
// animals.push('chicken');
```

```
// console.log(animals);
```

```
// Note :- interview mein poocha jata ki 'push method ' kya return karata hai
```

```
// push metod hamein length provide karata hai
```

```
// const animals = ['pigs ' , 'goats' , 'sheeps'];
```

```
// const count = animals.push('chicken');
```

```
// console.log(animals);
```

```
// console.log(count);
```

```
// Formula :- Push method se ham ek baar mein diffrent diffrent value add kar saktein hai
```

```
// const animals = ['pigs' , 'gaots' , 'sheeps'];
```

```
// animals.push('chicken' , 'cats' , 'cow');
```

```
// console.log(animals);
```

```
// Formula Unshift() :-
```

```
// unshift metod vlue ka start mein add karta hai
```

```
// const animals = ['pigs' , 'gaots' , 'sheeps'];
```

```
// const count = animals.unshift('chicken');
```

```
// console.log(count);
```

```
// console.log(animals);
```

```
// const count = animals.unshift('chicken' , 'cats' , 'cow' , 'buffelow');
```

```
// console.log(animals);
```

```
// Exapmle :-
```

```
// const myNumbers = [1,2,3,4,5];
```

```
// myNumbers.unshift(4,7,4);
```

```
// console.log(myNumbers);
```

```
// (1) Pop() method #####@#####
```

```
// is method ka prayog se ham data ki last value ko remove kar saktein hai
```

```
// const plants = [ 'tomato' , 'banana' , 'apple' , 'orange' , 'mango'];
```

```
// // main value
```

```
// console.log(plants);
```

```
// // reove value
// console.log(plants.pop());
// // new value
// console.log(plants);
```

```
// (1) shift() method #####@#####
// shift pop metod ka ulta hota hai ye first vlue ko reomove karta hai
```

```
// const plants = [ 'tomato' , 'banana' , 'apple' , 'orange' , 'mango'];
```

```
// // main value
// console.log(plants);
// // reove value
// console.log(plants.shift());
// // new value
// console.log(plants);
```

```
// ##### challenge time #####
```

```
// splice() method $$$$$$$$$$$$$$
```

```
// Note :- splice(jo number add karna hai uska index number, jo value delete kani uska index number,"value (jo add karni hai)")
```

```
// const months = ['jan' , 'feb' , 'march' , 'april' , 'may' , 'june'];
```

```
// Solution (1)
```

```
// 1st
```

```
// type mein index number add karna hai index value usi ki add hogi jo number add karna hai
```

```
// const newmonth = months.splice(5,0,"dec");
```

```
// console.log(months);
```

```
// 2st
```

```
// type mein index number add karna hai index value usi ki add hogi jo number add karna hai
```

```
// const newmonth = months.splice(months.length,0,"dec");
```

```
// console.log(months);
```

```
// Solution (2)
```

```
// const newMonth = months.splice(5,0,"december");
```

```
// console.log(newMonth);
```

```
// Solution (3) 1st part
```

```
// // type (1)
```

```
// const months = ['jan' , 'feb' , 'march' , 'april' , 'may' , 'june'];
```

```
// const updatemonth = months.splice(1,1,'February');
```

```
// console.log(months);
```

```
// type(2)
```

```
// const months = ['jan' , 'feb' , 'march' , 'april' , 'may' , 'june'];
```

```
// const updateMonth = months.splice(1,1,'February');  
// console.log(months);
```

```
// Solution (3) 2st part  
// Rule jab value bahut jyada ho  
// [indexOf(method se)]
```

```
// typeof(1st)  
// const months = ['jan' , 'february' , 'march' , 'june' , 'may' , 'dec'];
```

```
// const indexOfMonth = months.indexOf('june');
```

```
// if( indexOfMonth !== -1){  
// const updateMonth = months.splice(indexOfMonth,1,'June');  
// console.log(months);
```

```
// }else{  
// console.log('no search data found');  
// }
```

```
// typeof(2nd)  
// value ko search kar delete karna  
// const months = ['jan' , 'february' , 'march' , 'june' , 'may' , 'dec'];
```

```
// const indexOfMonth = months.indexOf('june');

// if( indexOfMonth !== -1){
// const updateMonth = months.splice(indexOfMonth,1,);
// console.log(months);

// }else{
// console.log('no search data found');
// }

// typeof(3d)
// value ko search kar uske baad ki sabhi value remove karna
// const months = ['jan' , 'february' , 'march' , 'june' , 'may' , 'dec'];

// const indexOfMonth = months.indexOf('june');

// if( indexOfMonth !== -1){
// const updateMonth = months.splice(indexOfMonth,Infinity);
// console.log(months);

// }else{
// console.log('no search data found');
// }
```


// (5) Map and reduce method

// 1st map() method ka prayog kisi value se kam value ko remove karna

// const array1 = [1,2,4,6,9,12,15];

// let newArr = array1.map((curElem,index,Arr) => {

// return curElem > 9;

// })

// console.log(array1);

// console.log(newArr);

// 2nd rule map() method ka prayog kisi value se kam value ko remove karna

// const array1 = [1,2,4,6,9,12,15];

// let newArr = array1.map((curElem,index,arr) => {

// return `Index no = \${index} as the value \${curElem} belong to \${arr}`

// })

// console.log(newArr);