INTERVIEW KIT PREPARATION OF JAVASCRIPT

1.What is java script?

Java script is a single-threaded, synchronous programming and scripting language widely used in web development. It plays a crucial role in both front-end and back-end development, enabling dynamic and interactive user experiences.

2. What is JS Engine?

JavaScript engines manage two key components while executing code:

1.Memory

2.Call stack

Memory Heap is where JavaScript stores objects, variables, and functions in a non-structured (unorganized) way.It handles dynamic memory allocation, which means when you create variables or objects, they are placed in the heap.

3. What is call stack?

Call stack is a crucial concept in JavaScript's runtime environment, representing the mechanism by which the JavaScript engine keeps track of function calls in a program. It operates as a Last In, First Out (LIFO) data structure, meaning that the last function called is the first one to be resolved.

4. What is global execution context?

Global execution context is the default environment where all javascript code begins to execute. It is created when a java script program first starts and is the highest-level execution context.

5.What is variable?

Variables can be declared using the keywords var, let, or const in JavaScript, each with different behaviors.

6.What are the variables in js?

- Variables can be declared using var, let, or const.
- Variables have scope (global or local), and their behavior changes based on how they are declared (var, let, const).
- Variables can store different types of data, and their values can change (except for const).

7.What is difference between var,let and const?

- Var:-
- The scope of a var variable is a global scope.
- It can be updated and re-declared in the same scope.
- Let:
- The scope of a let variable is a block-scope.
- It can be updated but cannot be re-declared in the same scope.

- Const:-
- The scope of a const variable is a block-scope.
- It can neither be updated or re-declared in any scope.

8. What is data-types?

JavaScript supports multiple data types. Understanding these data types is fundamental to effective programming.

9. What are the data types of js?

Data types are broadly categorized into two types:

1. Primitive data type
2. Non-Primitive data type

Primitive data type :- Primitive data types are directly stored in memory and immutable.Their values cannot be changed.

- It includes Number,String,Boolean,Null and Undefined.

Non-primitive data type:-Non-primitive data types are known as referred data types.It holds the multiple data types.

- It includes Object,Array and Function.

10. What is Array?

It represents an ordered collection of elements,accessed by index,starting from zero.Java script arrays are written with square brackets [ ].

11. What is Object?

It represents a collection of key-value pairs,where keys are strings and values can be any data type,including other objects.JavaScript objects are written with curly braces { }.

12. What is difference between not-defined and un-defined?

- Undefined means a variable has been declared but has not been assigned a value yet.
- It is the default value of variables that haven't be initialized.

13.What are operators in js?

Operators are symbols used to perform operations on variables and values.

1. Arithmetic Operator
2. Assignment Operator
3. Logical Operator
4. Bit wise Operator

14.What are objects in js?

Object in java script is a collection of key-value pairs where each key is a string and each value can be of any datatype, including other objects,arrays and functions.

15. What is difference between the Object.Seal() and Object.freeze()?

- Object.seal( ):- It is used to seal an object,preventing new properties from being added to it and existing properties from being removed.
- Object.freeze( ):- It is used to freeze an object. Freezing an object does not allow new properties to be added to the object and prevents removing or altering the existing properties.

16. In how many ways do you know to define an object?

There are five different ways to create an object in java : Java new operator java class newInstance( ) method Java newInstance( ) method of constructor java Object.clone( ) method java Object serialization and deserialization.

17. What is difference between parseInt( ) and parseFloat( )?

- parseInt( ) is a function is used to parse a string and extract an integer (a whole number). It reads from the beginning of the string until it encounters a character that is not a valid part of an integer.
- parseFloat( ) is a function that is used to parse a string and extract a floating-point number(a number with decimal places).

18. What is the difference between push and pop methods in array?

- Push( ) method:- Adds one or more elements to the end of an array and returns the new length of the array.
- Pop( ) method:- It removes the last element from an array and returns that element.

19. What is difference between unshift( ) and shift( )?

- unshift( ) method adds in or more elements to the beginning of an array. This method changes the length of the array by the number of elements added.
- shift( ) method removes the first element from an array and returns that element. This method changes the length of the array by reducing it by one.

20. What is the use of slice ( ) method?

Slice( ) method in java script is used to extract a section of an array or string without modifying the original array or string.

21. What is the use of charAt( ) and charcodeAt( )?

- CharAt( ) returns a character from a string by specified index.
- CharCodeAt( ) returns the uni-code value of specified character inside a string.The method from CharCodeAt( ) converts uni code values into characters.

22. What is split( ) and join( ) method?

- Split( ) method is primarily used to divide a string into an array of sub strings based on a specified separator.
- Join( ) method joins the elements of an array into an single string,using a specified separator between each element.

23. What is difference between trimStart( ) and trimEnd( )?

- trimStart( ) method is used to remove the occurrences of a set of characters specified in an array from the starting of the current string object.
- trimEnd( ) method is used to remove the occurrences of a set of characters specified in an array from the ending of the current string object.

24. What is difference between isNan( ) and isFinite( )?

- isNan( ):- NaN is stands for not-a-number.The number isNan() method returns true if a value is NaN.This method checks whether the passed value is NaN and of type number,ensuring identification of invalid numeric values.
- isFinite( ):- This method doesn't forcibly convert the parameter to a number and it does not return true for any value that is not of the type number.

25. What is difference between reverse and include method?

- Reverse function in java script is commonly used to reverse the order an array.
- Include method is used to determine whether a string contains another string specified value.It returns TRUE if string contains the specified value,FALSE otherwise.

26. What is difference between concat( ) and join( )?

- Concat( ) method in JavaScript join or concentrate two or more string together.It does not change the existing strings and returns a new string.
- Join( ) method joins the elements of an array into an single string,using a specified separator between each element.

27. What is difference between object.create( ) and new.Object( )?

- Object.create( ) is a method in JavaScript that creates a new object with the specified properties.
- New.Object( ):- is a new keyword in javascript is primilarily used with the constructor functions to create new instances of the objects.

28. What is the use of Object.assign( )?

- Object.assign( ) method copies properties from one or more source objects to a target.

29. What is the shortest file in js?

The shortest java script file is an empty file. It contains no content at all.

30. What is window?

All global java script objects,functions and variables automatically become members of the window.

Global variables are properties of the window.

31.If

```
var a=18;
if(a>=18){
    console.log("eligible for voting")
}else{
```

```
        console.log("not eligible")
    }
```

Output :- eligible for voting

31. If-else

```
    marks=55;
    if(marks>=95){
        console.log(A)
    }else if(marks>=50 && marks>=91){
        console.log("B+")
    }else if(marks>=35 && marks>=19){
        console.log("B-")
    }else{
        console.log("fail")
    }
```

Output:- B-

32. else-if

```
    var arr=[1,2,3,4,5]
    for (i=0;i<arr.length-1;i++){
        console.log(arr[i])
    }
```

Output:-1
2
3
4

33. Else-if (Reverse)

```
    var arr=[1,2,3,4,5]
    for (i=arr.length-1;i>=0;i--){
        console.log(arr[i])
    }
```

Output:- 5
4
3
2
1

34. typeOf( )

```
var arr=[1,2,3,"bannu",{id:"madhu",age:23},[7,8,9]];
console.log(typeof(typeof{id:"madhu",age:23}));
```

Output :- string

35. typeOf( )

```
var arr=[1,2,3,"bannu",{id:"madhu",age:23},[7,8,9]];
for (elem of arr){
    if(typeof elem=="object"){
        if(elem.name="madhu")
            console.log(elem.name);
    }
}
```

Output :- madhu

36.

```
36.var arr=[1,2,3,undefined,{id:"Sana",age:23}]
for (elem of arr){
    if(typeof elem=="object" && elem!==null){
        if(elem.id=="sana")
            console.log(elem.id)
    }
}
```

Output :- Sana

37. Operators

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

Output :- 30

38.

```
var a=10;
var b=20;
console.log(a||b);
```

Output :- 10

39.

```
var choose="Assignments";
switch(choose){
    case "Home":
        console.log("Home")
        break;
    case "Classes":
        console.log("Classes")
        break;
    case "Assignments":
        console.log("Assignments")
        break;
    default :
        console.log("Choose one case")
}
```

Output :- Assignments

40. (While)

```
while(true){
    console.log("go to vote");
    break;
}
```

Output :- go to vote

41.

```
while(true){
    if(true){
        console.log("go to vote");
        break;
    }else{
        break;
    }
}
```

Output :- go to vote

41. control statements

```
var a=10;
while(a>=1){
    console.log(a)
    a--
}
```

Output :- 10
9
8
7
6
5
4
3
2
1

42. do-while

```
var a=10;
do{
    console.log(a);
    a--;
}while(a>=1)
```

Output :- 10
9
8
7
6
5
4
3
2
1

43. Function

```
function a(){
    var a=10;
    var b=20;
```

```
    console.log(a+b);
}
a();
```

Output :- 30

44. What is call by function?

It is a pre-defined javascript method. It can be used to invoke(call) a method with an owner object an argument(parameter).

45. (setInterval)

```
setInterval(function(){
    console.log("hello")
},10000)
```

Output:- //10sec wait after we will get the output

hello

46.

```
var a=[10,100,1000];
a.push(5000);
console.log(a);
```

Output :- [10,100,1000]

47.

```
var a=[10,100,1000];
a.pop();
console.log(a);
```

Output :- [10,100]

48.

```
var a=["how are you"]
a.unshift("hai","hello");
console.log(a);
```

Output :- [‘hai’,’hello’,’how are you’]

49.

```
var fruits=["apple","banana","mango"]
console.log(fruits.length);
```

Output :- 3