

Module (JAVASCRIPT BASIC & DOM)- 4

(Basic Logic Question)

1.What is compiler ?

- convert simple language into machine language
(0101010)
- code verify, execution, code load



What is JS?

1. JS is a client side scripting lang (It is execute on browser side)
2. JS is partial object oriented programming lang (we write all the thing in class)
3. JS is scripting lang (when we use function its called scripting lang)

:JS is world's most popular programming language.

:JS is the programming language of web.

:JS is easy to learn.

:JS use babel compiler to execute the code. (Babel convert byte code into machine code)

:JS is the extension of Java Script



How many types of JavaScript?

1. Dom JS (Use: web designer without class)
2. es6 - modern JS (Use: node JS ,react without class) // function based
3. oops JS (use : when we want to do all the things by class)



Variable :-

- Variable is container in which we store the same type of data and single data.

- to define variables JS has 3 keywords (var, let, const)

Var: global scope variable can be redeclared or update.

Let: block scope variable can not be redeclared but we can update it.

Const: is also block scope variable cannot redeclared or update.

* Difference between let, var, const

--We can define variable multiple times in VAR but VAR print only last data.

--We can define one variable multiple using in LET but we can change the value of variable.

--In CONST we cannot change the value of variable.



Variable Scope:

1. Local scope : Declare in body {}
2. Global scope : Declare outside of body {}



Datatype in JS:

- A data type tells what kind of value a variable can hold.
- Two Main Types of Data Types in JS:

1. Primitive Data Types (By Default): number, String, Boolean, Undefined, Null, Symbol,

2. Non-Primitive Data Types (User Define): Object, Array, class, Function (In non-primitive datatype we can manipulate with this data)



Loosely typed vs Tightly typed languages :

- Loosely Typed Language (Like JavaScript)

.You don't need to tell the type of a variable.

.A variable can change its type later.

.JavaScript is loosely typed.

- Tightly Typed Language (Like Java, C++) :

.You must declare the type of a variable.

.Once a variable is given a type, it cannot change.



What is Function ? Types of function

- collection of code that code we will use for particular task

➤ We have to call the function with function name

❖ 4 types of function:\

1. Traditional Fun (normal fun) : Declared by Function keyword and Function Name [ex: `function login(){ }`]
2. Anonymous Fun : Function keyword and No Name [ex: `let b = function(){ }`]
3. Arrow Fun : No Function keyword and No Function Name
4. OOPS based Fun :

❖ In built method :

- Alert : Notification popup
- Prompt : Take input from user (We will not use prompt because that store string data only)
- Confirm : At the time of delete we ask user for yes or no (it use Boolean data type)

* What is difference between `==` and `===` ?

`==` check only value and `===` check datatype and value both.



What is Object?

- Object is non primitive data type.
 - We can store multiple data at a time .
 - Object use two things to store data (1) property and (2) value
-
- access data which store in object we will use that data by call objectname.key (property)
-
- disadvantage :object occupy memory every time when you call object

(Date : 3/6/2025)



What is Array?

- Array is non primitive datatype and collection of elements with diff datatype
 - Array store data index based which start with 0 elements.
-
- Advantages of array

1. random access
2. code optimization

- Disadvantage:

- random access (When we use delete operation because array shift index number internally shift data)

- syntax : `let x = ["reactjs", "nodejs", 123]`

- `document.write(x[1])`

- Array has multiple methods:

1. push : add data from last
2. pop : remove data from last
3. shift : remove data from first
4. unshift : add data from first
5. concat : (single element add ; full array merge ; multiple array merge) return new array

* What is the different btw push and concat ?

eg : push -- use for add to cart

concat --- to buy the product we have two different information 1 product information and 2 user detail and generate new array

(... spread or rest operator):

---> (...spread operator): When we pass the data one place to second place it called spread operator.

---> (...rest operator): when we have less container (variable / parameter) and more data then we use rest operator to store all data .(when we store data by using rest operator it stores by array not in variable)

--ex: function xyz(a,b,...c){ //price 300, product name t-shirt, multiple colors

--rest operator donot byforget data

* what is the diff btw Spered and rest ?

* what is the diff btw Spered and concat ?

short and revers :

(Date : 5/6/2025)

closure

1. nested function : -function inside function -
combination of inner function and outer function
2. variable scope : (local and global)

nested function : function inside function //
combination of inner function and outer function

in nested function only outer function will be call we have
to call inside function in nested function

but in callback function we call outer function and automatically call inside function

outer function called where outer fun end

inner fun called where inner fun closed

closure

positive

1 - global variable use by outer fun / inner fun /both
//closure

2 - outer fun variable use by inner fun // closure

negative

1. outer fun / inner fun variable never use as globally

2. inner fun variable never use by outer fun

* What is closure ? (imp)

other types of JS :

call , apply, bind -- use for data borrow (these 3 is depending on databinding and data execution)

databinding	data execution
-------------	----------------

call : at a time	at a time (store data in primitive datatype)
------------------	--

apply : at a time	at a time (apply data in non primitive datatype)
-------------------	--

bind : at a time	future
------------------	--------

*what is call apply and bind in JS ? (imp)

* Difference between call ,apply and bind (imp)

(Date : 7/6/2025)

OOPS JS : class object encapsulation inheritance
abstraction polymorphism

*JS is fully object oriented or partial oriented language
?(imp)

Ans : (js is partial oriented language) all language is
partial oriented language in js only dat language is fully
object oriented language which is use in fulter

fully oops -

- 1 use all oops concept
- 2 JS use as an object (default / inbuild)

partial oops -

koi bhi ek condition full fill nahi hogi

What is class ?

- collection of Datatype , method , constructor, variable
- when you initialization the class at that time that class
give the output.

- class initialization by new key word at outer side of class
- class initialization at the end of the class.

syntax - class keyword class name{

Datatype , method , constructor, variable

}

ex : class customer {

code that use only customer : Datatype , method ,
constructor, variable

}

let n = new customer(); //initialization of class // n- object
, new - keyword , customer -constructor

- Whenever we initialize class , compiler create 1 default class and that class name always same with constructor.

- In JS you can create only one constructor for one class.

*what is the difference between variable and object ?

- variable store primitive datatype

store single data

- object store nonprimitive datatype

store multiple data

method :

- collection of code that code we will use for particular task

- we can use multiple method in a single class

-in oop we can call method with class

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constructor :

- class name and constructor name is always same
- 1 default constructor call class
- in js we can create maximum 1 constructor

constructor has 2 types :

(1)without parameter (made by compiler)

(2)with parameter (made by us)

--Whenever we initialize constructor with parameter at that time we will assign value to parameters

--Static keyword manage memory of methods ,variables etc.

babel:

*what is the difference between method and constructor ?

*Where we can use constructor and method in website ?

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inheritance : child class can use the functionality of parent class

key word : extends

advantages : 1. code reusability 2. code optimization

types of inheritance :

1. single - 1 child and 1 parent

2. multiple - 1 child and more than 1 parent (not supported in js)
3. multilevel - 1-2-3-4-5
4. hybrid - combination of any 2 inheritance
5. heirarchical - 1 parent multiple child

encapsulation :

-data wrape

-we have to make class - method - data

-in which our data wrape by method and method is wrape by class

#polymorphism

one interface and multiple implements

(1) Method overloading:

- 1 class with multiple methods
- methods name are same but parameters is different

(2) Method Overriding:

- 1 class with multiple method
- methods name same and parameter same

criteria of parameter check:

1. no of parameter /argument
2. datatypes

---2 key words:

1. this- child data
2. super- parent data (no data)

(if method/function name is same then execute the last one)

#abstraction

- To hide sensitive data
- Combination of abstraction class and abstraction method

*what is the diff btw abstraction and encapsulation?(imp)

*diff btw method and static method ?

*diff btw this and super keyword ?()

