***Give me some idea on what is a Data type. What are Primitive Data types and Non-Primitive Data types. Explain with some examples.***

**DATATYPE:**

1)Used to mention wht kind of data stored in the variable.

2)specifies type of data.

3)Different datatypes require different amount of memory.

**CHARACTERISTICS OF DATATYPES:**

i. Dynamically typed : DT is stored with value not variable name.its decided nd checked at run time.

ii. Everything is an object : all DT behave like OBJ temporarily when you try to access properties on them.

iii. NaN(Not A Nmbr) is not equal to itself: used to represent computational error.Type number.

iv. A symbol is never equal to another one :unique and immutable,used for creating pvt. Prop nd methds

v. Undefined and null: undefined-represents a variable declared but not assigned.null-No value

vi. Integers are floating are numbers.

vii. A character is also a string: NO separate type for chars.single char is a string.

4)Datatypes are primarily divided into 2 types:

i)Primitive Datatype.

ii)Non-Primitive Datatype.

**i)PRIMITIVE DATATYPES:**

- Stores single values.

- These are default datatypes(Built-in).

🡪 Number,String,Boolean,Null,Undefined are some of the primitive datatypes.

1)NUMBER:

-Represents both integer and floating-point numbers.

-JS doesn’t distinguish between int and floats.

-some spl numbrs in JS:Infinity,NaN.

-NaN-denotes a computational error.

Ex:

let n1 = 2;

console.log(n1) //Output: 2

let n2 = 1.3;

console.log(n2) //Output: 1.3

let n3 = Infinity;

console.log(n3) //Output: Infinity

let n4 = 'something here too'/2;

console.log(n4) //Output: NaN

2)STRING :

-Series of characters surrounded by quotes.

-3 types of quotes in js—“ ”,’ ’,` `

- No difference between single nd double quotes.

- backticks provide extra functionality.

Ex:

let s = "Hello There";

console.log(s); //Output: Hello There

let s1 = 'Single quotes work fine';

console.log(s1); //Output: Single quotes work fine

let s2 = `can embed ${s}`;

console.log(s2); //Output: can embed hello There

3)BOOLEAN:

- Only 2 values: True r false

EX:

let b1 = true;

console.log(b1); //Output: true

let b2 = false;

console.log(b2); //Output: false

4)NULL:

- Spl value

- Doesn’t belong to any default datatypes

- It forms seperate type of its own which contains only null value.

EX:

let age = null;

console.log(age) //Output:null

5)UNDEFINED:

- Variable which is declared but not initialized with a value is automatically assigned undefined value.

- Variable exits,but has NO value assigned to it.

Ex:

let a;

console.log(a); //Output: undefined

**ii)NON -PRIMITIVE DATATYPES:**

- Can store multiple values.

- These are user defined.

-Alos known as derived datatypes or reference datatypes.

🡪 Functions,arrays nd objects are types of Non-primitive datatypes.

1)OBJECTS:

- fundamental data structures used to store collections of data.

-consist of key-value pairs.

-created using curly braces {} or the new keyword.

-everything in JavaScript is essentially an object.

🡪Object creation:

Using the “object constructor” syntax

let o = new Object();

Using the “object literal” syntax

let o = {};

2)Arrays:

-Special kind of object used to store an ordered collection of values, which can be of any data type.

Ex: let a = [1, 2, 3, 4, 5];

console.log(a); //Output: [ 1, 2, 3, 4, 5 ]

let a2 = [1, "two", { name: "Object" }, [3, 4, 5]];

console.log(a2); //Output: [ 1, 'two', { name: 'Object' }, [ 3, 4, 5 ] ]