## What is Programming language?

Its a medium to communicate with computer

## Levels in programming language:

1. Low level - Helps us to create a new programming language or helps to program a computer.
2. High level - Helps us to create softwares.

## What is Javascript?

1. Programming language
2. High level programing language
3. Scripting language - interactive web/mobile/desktop/smart/IOT/server applications are built.
4. Interpreter programming language

## What is a Website?

Website is a content that can be viewed on a browser with help of internet(WORLD WIDE)(www.google.com)/intranet(ORGANIZATION WIDE)(192.168.20.12).

Types of websites:

1. Static - Guvi.in
2. Dynamic - Amazon.in

### List of website:

1. Google,
2. Facebook,
3. Flipkart
4. Instagram
5. Youtube
6. Screener
7. Amazon
8. Guvi.in
9. Netflix
10. Canva
11. Makemytrip

## JAVASCRIPT CONCEPTS:

### BASIC DATA TYPES:

{

name: “Test Name”, // ALPHABETS ( CHAR ) - **String**

email id: “[test@test.com](mailto:test@test.com)”, // ALPHABETS & SPECIAL (CHAR) - **String**

dob: “10/10/2000”, // NUMBER & SPECIAL (CHAR) - **String**

contact number: “+917010111565”, // NUMBER & SPECIAL (CHAR) - **String**

education: “BE”, // ALPHABETS ( CHAR ) - **String**

age: 21, // NUMBERS - **Number**

feesPaid: **Yes or no** - **true or false - Boolean**

}

console.log(**typeof** “Hello guys”); -> **Typeof** keyword will return **datatype** of input.

## OPERATORS: General operators:

1. CNC operator
2. Pump operator
3. Machine operator
4. JCB operator
5. Crane operator
6. Lift operator

#### ARITHMETIC OPERATORS: +, -, \*, /

2 + 2 = 4

10 - 2 = 8

10 \* 10 = 100

100 / 10 = 10

console.log(2+2)

console.log(10 - 2)

console.log(10 \* 10)

console.log(100 / 10)

console.log(10 - 2 + 10 \* 5 - 10 / 2) // 40 45 53 8 0 53

/\* BODMAS - BRACKETS ORDER DIVISION MULTIPLICATION ADDITION SUBTRACTION

STEP 1 - (10 - 2 + 10 \* 5 - 5)

STEP 2 - (10 - 2 + 50 - 5)

STEP 3 - (10 - 52 - 5)

#### COMPARISON OPERATOR:

Is 10 greater than 10 ? 10 > 10 = **false**

Is 100 < 101 ? 100 < 101 = **true**  
Is 1000 > 99 = **true**

100 greater than or equal to 99 = 100 >= 99 = **true**

100 greater than 101 **or** equal to 101 = 100 >= 101 = **false**

10 not equal to 100 ? 10 != 100 = **true**

10 != 10 = **false**

console.log(10 > 10) //false

console.log(100 < 101) // true

console.log(100 >= 99); // true

console.log(100 <= 100); // true

console.log(1 <= 0); // false

console.log(10 != 100); // true

console.log(10 != 10); //false

#### ASSIGNMENT OPERATOR:

var {variableName} = {value};

var number = 10;

1. LOGICAL OR BITWISE OPERATOR:

Father buy me - Shawarma **and** Coke

**Case 1:** **Both** - Happy and satisfied.

**Case 2**: **Either One** - Happy but not-satisfied.

**Case 3: None -** Unhappy and Not-satisfied.

***OPERATOR - AND (&&)***

Father buy me - Shawarma **or** Pizza

**Case 1: Both -** Happy and satisfied

**Case 2: Either One -** Happy and satisfied

**Case 3: none -** unhappy and not-satisfied

***OPERATOR - OR (||)***

## ADVANCED DATA TYPES:

##### Array: 1. Array is a ***collection of elements***, that elements can be of String, Number, Boolean, Array etc. 2. Any element in array can be ***deleted***, and elements will be *re-arranged accordingly* 3. Any element in the array has its own **index**, and we can get an element using the index. 4. Any elements from the array matching any conditions can be filtered.

5. An array can also be a mixed array.

SYNTAX:

**var** *{variable\_name}* = [2, 3, 4 ,5 ,6]

EXAMPLES:

*// AN array is an collection of elements*

*var numberArray = [1,2,3,4,5,6]*

*var stringArray = ['a', 'b', 'yes', 'no'];*

*// An array is an collection of elements of all datatypes*

*var mixedArray = [1, '2', 'Three', 4, false, true, [1, 5, 7, 9]];*

*console.log(mixedArray);*

*// AN ARRAY ELEMETS AT ANY POSITION CAN BE PICKED*

*var mixedArray = [1, '2', 'Three', 4, false, true, [1, 5, 7, 9]];*

*console.log(mixedArray[6][1]);*

***// PROGRAM TO PICK SELECTIVE INDEXES***

*function pickYourData(data, indexesToFilter = []) {*

*let filteredArray = [];*

*if(typeof data === "object") {*

*for(let i = 0; i < data.length; i++) {*

*if(indexesToFilter.includes(i)) {*

*filteredArray.push(data[i]);*

*}*

*}*

*return filteredArray;*

*} else {*

*throw new Error(`Given data is of ${typeof data} and its not supported`);*

*}*

*}*

*const result = pickYourData(mixedArray, [2, 4, 5]);*

*console.log(result);*

##### OBJECTS:

* + 1. Object is a collection of Key-value pairs.
  + 2. Key is always a string, and values can be any datatype ( String, Number, Boolean, Array, Object )
  + Also new keys for objects can be introduced at any point of time
  + Any key in object can be deleted at any point of time

**Syntax**:

***var*** *data = {*

***name****: ‘Test Name’,*

***age****: ‘25’,*

***dob****: ‘11/11/2000’*

*}*

**Examples**:  
  
*var data = {*

*name: "Test Name",*

*Name: “abhishek”,*

*age: "25",*

*dob: "11/11/2000"*

*};*

*data.country = 'india';*

*data.city = 'chennai';*

*delete data.dob;*

*console.log(data);*

## CONDITIONAL STATEMENTS:

1. An condition is set of rules that has to be followed
2. An work or task that has to be met certain expectations

#### CASE STUDIES:

**ME**: I have asked my father to buy Shawarma **and** Coke and I needed both badly.

**FATHER:**

1. Both - I bought both - Satisfied
2. Either One - I bought either one - Not-Satisfied
3. None - I didn't have a chance to buy anything - Not-Satisfied

If my father bought me both shawarma and coke i'll feel satisfied

If my father bought me only shawarma and not coke i’ll feel unsatisfied

If my father bought me nothing then i'll feel unsatisfied

*SYNTAX:*

*if( CONDITIONS ) {*

*// CODE GOES HERE*

*} else if( CONDITIONS ) {*

*// CODE GOES HERE*

*} else if( CONDITIONS ) {*

*// CODE GOES HERE*

*} else {*

*// CODE GOES HERE*

*}*

##### EXAMPLES:

###### Example 1: Shawarma and coke:

*var shawarma = true; // FATHER BOUGHT SHAWARMA*

*var coke = true; // FATHER BOUGHT COKE*

*if( !shawarma && !coke ) {*

*console.log("Im very very un-satisfied");*

*} else if(shawarma && !coke) {*

*console.log("As no coke im unsatisfied");*

*} else if(!shawarma && coke) {*

*console.log("As no shawarma im unsatisfied");*

*} else {*

*console.log("I will feel satisfied");}*

###### Example 2: UPI PAYMENT:

STEPS:

1. Enter amount to send
2. (Optional) Message
3. Enter UPI Pin

If entered amount is not valid Error out “Entered amount is invalid”

If UPI pin is not matching saved UPI pin Error out “Entered UPI pin is wrong”

else inform user “Money sent successfully”  
  
  
  *var amountEntered = 11;*

*var pinSaved = 1234;*

*var pinEntered = 1234;*

*var minimumAmount = 10;*

*if(typeof amountEntered !== 'number' || amountEntered < minimumAmount) {*

*console.log("Entered amount is invalid");*

*} else if(typeof pinEntered !== 'number' || pinEntered != pinSaved ) {*

*console.log("Entered pin is not matching");*

*} else {*

*console.log("Monet transferred successfully!!");*

*}*

## LOOPS:

###### SYNTAX:

for(START CONDITION; BREAK CONDITION; INCREMENTATION) {

}

###### *EXAMPLE*:

for(var x = 1; x <= 10; x = x + 1) {

console.log(`Playing song ${x} times`);

}

console.log(x);

## IDE:

[Jsfiddle](https://jsfiddle.net/) - An online coding platform for javascript

