* **0Getting Started with JavaScript**

To learn JavaScript in Bangla

<https://tutorialbd.com/javascript/9e.php>

# Introduction & Course Overview

# Not So Important

# Installing Visual Studio Code

# Not So Important

# Now Start Coding!

# JavaScript Outputs

# Four Ways for Displaying Data in JavaScript:

# window.alert()

window.alert("I am learning JavaScript");

# or

alert("I am learning HTML");

# document.write()

document.write("I am learning JavaScript");

# innerHTML

<p id="root">

</p>

document.getElementById("root").innerHTML = "I love JavaScript";

# console.log()

console.log("Hello World");

# Connect JS file to HTML

<script src="js/script.js">

</script>

# Statement, Syntax, Comments

window.alert("I am 'learning' JavaScript");

document.write('I am "learning" JavaScript');

document.write("67,5 67.5");

# for single comment crtl + / and for multiple comment ctrl + shift + / dite hoi and egolo abar dile comment chole jai

# User Input

prompt("Enter Your Name: ");

var x;

 x = prompt("Enter Your Name: ");

 document.write(x);

# Variables and Constants

# JavaScript Variables Part 1

# https://medium.com/@ethannam/javascripts-memory-model-7c972cd2c239

# var myName = 37;

# or

# var myName;

# myName = 37;

# let myName;

# JavaScript Variables Part 2

# See again if need

# Javascript Constants and Keywords

https: //www.w3schools.in/javascript-tutorial/keywords/

const a = 5;

     console.log(a);

# Operators

# Arithmetic Operators

/\* operand operator operand

a + b {called binaray opreator,because there are two operand, another operator is unary operator} \*/

/\* +,++,-,-- \*,\*\*(Exponent) /,%{they are all algebraic / Arithmetic Operators} \*/

a++ = a + 1

a-- = a + 1-1

a = (3 - 5) \* 5 / 7 + 4 \*\* 4;

# String Operators

# Comparison, Logical and Conditional Operators

https://www.w3schools.com/js/js\_comparisons.asp

https://developer.mozilla.org/en-US/docs/Web/JavaScript

# Assignment Operators

# Exercise – Operators

# Exercise Solution

var temp = prompt("Please enter temperature: ");

var result = 9 / 5 \* temp + 32;

alert("Fahrenheit: " + result + " Degree");

 console.log("Task Complete!");

# Data Types

# Different Types of Data

There are five types of data in JavaScript

* **Number** (Always Without Quotation)
* **Strings** (In Single or double quotation, can be number or character or both together)
* **Booleans** (can be true or false, must be written without quotation)

Ex: var a = true;

* **Arrays** (collection of items or values, ekadik numbers and string store kora jai, [] er vitor likre hoi )

Ex: var num = [1, 2, 3];

var name = [Karim, Rahim, Jamal];

var values = [1, “Karim”, 3, “Jamal”];

* **Objects (**collection of proprtty:value pairs, written with curly{} braces, similar to html attributes)

var man = {name: "kawsar", age:21, home:"Brahmanbaria"}

**Besides these 5 types of data there are some other data types are used in JavaScript, they are respectively given below**

* **Undefined**
* **Empty value**
* **Null**
* **Nan (**not a number**)**

# Numbers

var x;

x = 3.141;

x = 34;

x = 123e5; // 123 \* 10 \*\* 5

x = 123e-5; // 123 \* 10 \*\* -5

// Numbers takes 64 bits

// + can be used for both addition and conatenation

"34" + "45" // will be string

34 + "45" // will be string

"34" + 45 // will be string

"The result is " + 34 + 45

34 + 45 + "is the result"

34 + 45 + "13"

//Numeric Strings

"25" - "5"

"25" / "5" // result 10

"25" \* "5"

"25" % "5"

"25" + "5" //exception

//Infinity

var num = Infinity;

25 / 0 // will get Infinity

//Hexa Decimal Numbers,1st need to write zero(0),then ex(x) then hexadecimal number

var x = 0xBB

x.toString() // Returns number as string

x.toString(16);//it always converts to string

var x = 3.1416;

x.toPrecision();

x.toPrecision(2);

x.toPrecision(4);

x.toPrecision(10);//3.1416 porjonto nie baki goloke 0 kore dibe

var x = "123"

parseInt(x);

x = "123.45"

parseFloat(x);

isNaN(x);

//Links

//https://www.w3schools.com/jsref/jsref\_obj\_number.asp

//https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global\_Objects/Number

# Strings

"Hello World"

'Hello World'

"Hello " World"

"Hello  World"

"Hello n World"

'Hello ' World'

'Hello t World'//tab er jonno

//Concatenation

"Hello" + "World"

var x = "Hello World";

//Length of String

x.length; //It is a property

//Indexing

"Hello World"[0]

"Hello World"[3]

x = "Hello World";

x[0]

x[3]

x[15]//undefined dekhabe karon hello world e 15 ta character nai

//Immutable

x[1]

x[1] = "5"

x[1]

// return a new string, doesn't change x

//These are methods

x.slice(1, 5);

x.slice(-6, -1);

x.substr(3, 2); // 2nd parameter means the length

x.replace("Hello", "World");

x.toUpperCase();

x.toLowerCase();

x.concat("1", "2");

x.trim();

//links

//https://www.w3schools.com/jsref/jsref\_obj\_string.asp

//https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global\_Objects/String

# Booleans

10 > 9 -

      1 > 2 "Hello" == "Hello"

var x = "Hello";

var y = Boolean(x);

x = null

y = Boolean(x);

x = 10 / "H";

Boolean(x);

var myVar;

Boolean(x);

//undefined, null, NaN always flase in Boolean expressipon

//links

//https://www.w3schools.com/jsref/jsref\_obj\_boolean.asp

# Arrays Part 1

# Arrays Part 2

//Collection of items

countries = ["Bangladesh", "USA", "UK"]

countries[0]

countries[1]

country = countries[0]

country

//Mutable

countries[0] = "Poland"

countries

countries.length;

countries[countries.length] = "Norway"

//Push and Pop

countries.push("China"); // return length

countries.pop() // returns length

countries.push("Japan", "Srilanka");

countries.shift() //returns the shifted

countries.unshift("Germany") // returns length

//Empty array

var numbers;

numbers = []

numbers.push(1)

numbers.push(78)

numbers.push("One")

x = "Bangladesh"

var y = x.split("")

x = "Bangladesh is a country"

y = x.split("")

y = x.split("n")

z = x.split(" ")

x = "Bangladesh, China, Finland"

y = x.split(",")

z.toString()

z.join("/")

x.concat(z, y);

countries.sort()

countries.reverse()

//Links

//https://www.w3schools.com/jsref/jsref\_obj\_array.asp

# Objects

student = {

      name: "Rahim",

      age: 25,

      hometown: "Dhaka"

}

student["name"]

student.name

student = {}

student["name"] = "Rahim"

delete simanta.name

# More on Arrays and Objects

# Undefined, Empty values, null, NaN

null == undefined//true hobe

null === undefined//false hobe, karon eta type soho check kore

var b = "";//"" holo empty value

console.log(b);

b == a

console.log(b);//false pabo

null == ""//false pabo

undefined == ""//false pabo

var c = "abc"/ 10;

console.log(c);//nan pabo ottat not a number

NaN == undefined//false pabo

NaN == null //false pabo, karon egolo same na

NaN == "" //false pabo

# Primitive and Reference Types

//Number, string and boolean era holo primitive type ebong deals with value

let a = 7;

let b = a;

a = 45;

console.log(b);//still b = 7 takbe 45 hobena

//array and object holo reference type ebong address ke nie deal kore

var numbers = [1, 2, 3];

var newNumbers = numbers;

console.log(newNumbers);

numbers[1] = 500;

console.log(numbers);

console.log(newNumbers);//ekhane o 500 dekhabe

# Template Literals (ES6)

# Template Literals (ES6)

// Template literals (ES6)

// Backtick ``

let name = "Rahim";

let age = "38";

let dob = "21 June, 1983";

console.log(`His name is ${name}

His age is ${age}

Date of Birth ${dob}`);

let a = 34

let b = 67

console.log(`${a} + ${b} = ${ a + b }`);

# Conditions

# If Statement