**Datatypes in Node.js**

Node.js contains various types of data types similar to JavaScript.

* **Boolean**
* **Undefined**
* **Null**
* **String**
* **Number**

**Loose Typing:**

Node.js supports loose typing, which means you don’t need to specify what type of information will be stored in a variable in advance. We use the var and let keywords in Node.js declare any type of variable. Examples are given below:

**Example:** This example demonstrates how the typeof operator in JavaScript dynamically checks and displays the data type of a variable after assigning different types of values to it.

// Variable store number data type

let a = 35;

console.log(typeof a);

// Variable store string data type

a = "imccpune";

console.log(typeof a);

// Variable store Boolean data type

a = true;

console.log(typeof a);

// Variable store undefined (no value) data type

a = undefined;

console.log(typeof a);

**Objects and Functions:**

Node.js objects are the same as JavaScript objects i.e. the objects are similar to variables and it contains many values which are written as **name: value** pairs. Name and value are separated by a colon and every pair is separated by a comma.

let company = {

Name: "imcc",

Address: "pune",

Contact: "+919876543210",

Email: "abc@imcc.org"

};

// Display the object information

console.log("Information of variable company:", company);

// Display the type of variable

console.log("Type of variable company:", typeof company);

**Functions in Node.js**

Node.js functions are defined using the **function** keyword then the name of the function and parameters which are passed in the function. In Node.js, we don’t have to specify datatypes for the parameters and check the number of arguments received. Node.js functions follow every rule which is there while writing JavaScript functions.

function multiply(num1, num2) {

// It returns the multiplication

// of num1 and num2

return num1 \* num2;

}

// Declare variable

let x = 2;

let y = 3;

// Display the answer returned by

// multiply function

console.log("Multiplication of", x, "and", y, "is", multiply(x, y));

**String and String Functions in Node.js**

In Node.js we can make a variable a string by assigning a value either by using single (”) or double (“”) quotes and it contains many functions to manipulate strings. Following is the example of defining string variables and functions in node.js.

let x = "Welcome to imcc ";

let y = 'Node.js’;

let z = [‘imcc’, 'for', ‘mca’];

console.log(x);

console.log(y);

console.log("Concat Using (+) :", (x + y));

console.log("Concat Using Function :", (x.concat(y)));

console.log("Split string: ", x.split(' '));

console.log("Join string: ", z.join(', '));

console.log("Char At Index 5: ", x.charAt(5));

**//For Loop**

let a=10;

console.log(a);

str="imccpune"

console.log(str+a)

array1=["pune","mumbai","delhi","nagpur"]

console.log(array1.length)

console.log(array1[0])

for(i=0;i<array1.length;i++)

    console.log(array1[i])

array1.forEach(city => {console.log(city)

  });

**// program to check an Armstrong number of three digits**

const number = 153

// create a temporary variable

let temp = number;

let sum=0

while (temp > 0) {

    // finding the one's digit

    let remainder = temp % 10;

    sum += remainder \* remainder \* remainder;

      temp = parseInt(temp / 10); // convert float into integer

}

// check the condition

if (sum == number) {

    console.log(`${number} is an Armstrong number`);

}

else {

    console.log(`${number} is not an Armstrong number.`);

}

**// program to check the number of occurrence of a character**

function countString(str, letter) {

    let count = 0;

    // looping through the items

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

        // check if the character is at that position

        if (str.charAt(i) == letter) {

            count += 1;

        }

    }

    return count;

}

// take input from the user

const string = "Hello all...welcome to pune"

const ch = 'l';

//passing parameters and calling the function

const result = countString(string, ch);

// displaying the result

console.log(result);

**// program to check if an array contains a specified value**

const array = ['you', 'will', 'learn', 'javascript'];

numbers=["one", "two", "three"]

const hasValue = array.includes('javascr ipt');

// check the condition

if(hasValue) {

    console.log('Array contains a value.');

} else {

    console.log('Array does not contain a value.');

}

array1=array.sort()

newarray=array1.concat(numbers)

newarray.forEach(element => {console.log(element)

});

**// display odd numbers**

for (let i = 1; i <= 5; i++) {

    // skip the iteration if i is even

    if (i % 2 === 0) {

        break;

    }

    console.log(i);

}