Data types cont'd

4. Object Data Type

To store collections of data JavaScript provides object data type. An object have key-value pair called as its property. A property key (name) is always a string, but the value can be any data type, like strings, numbers, booleans, or complex data types (arrays, function and other objects). Example:

```
var student = {"name": "Ravi", "sur-name": "Kant", "class": "12"};
```

If name is a valid JavaScript name, the quotes around property name may be skipped. For example, above example may be written as:

```
var student = {name: "Ravi", "sur-name": "Kant", class: "12"};
```

5. Array Data Type

An array is nothing but a type of object used for storing multiple values in single variable. Each value in an array is also known as element. All these elements has a numeric position called its index starting from 0, i.e.first array element is **arrayname[0].**

Elements or values in an array may contain data of any data type-numbers, strings, booleans, functions, objects, and even other arrays.

Arrays can be created by specifying the elements separated comma and enclosed in squre brackets([ ]). For Example:

```
var courses = ["O level", "Java", "Python"];

var state = ["UP", "Bihar", "MP"];
```

where,

course[0] represents **"O level"**

state[1] represents **"Bihar"**

6. Function Data Type

The function executes a block of code and is is callable object. It is possible to assign functions to variables since functions are objects. For example:

var welcome = function(){ return "Welcome to NIELIT"; }

If we use the **typeof** operator to find the data type of the welcome it will return function.

typeof welcome will return **function**.

7. Undefined Data Type

The undefined data type is a special data type and have only one value i.e. **undefined**. When a variable has been declared, but has not been assigned any value and if we try to find the value or datatype (typeof) of variable will be returned as **undefined**.

var a; var b = "NIELIT"

where,

typeof a → undefined

a → undefined

8. Null Data Type

The null is a special data type that can have only one value i.e. **null** value. A **null** value means that there is no value. It is simply nothing. An empty string **("")** or **0** value can't be null value**.** A variable is exclusively assigned **null** value.

var a = null;

i.e. a variable has null.

var b = "NIELIT" ;

b = null;

i.e. b is emptied and exclusively assigned null value.

Conditional statements

Conditional statements allow program to make correct decisions and perform right actions based on certain conditions. The situation may be when you need to adopt one out of a given set of paths. For this, JavaScript supports conditional statements are used to perform different actions based on different conditions.

if..else statement

The forms of **if..else** statements are supported by Java Scripts:

i. if statement

ii. if...else statement

iii. if...else if... statement.

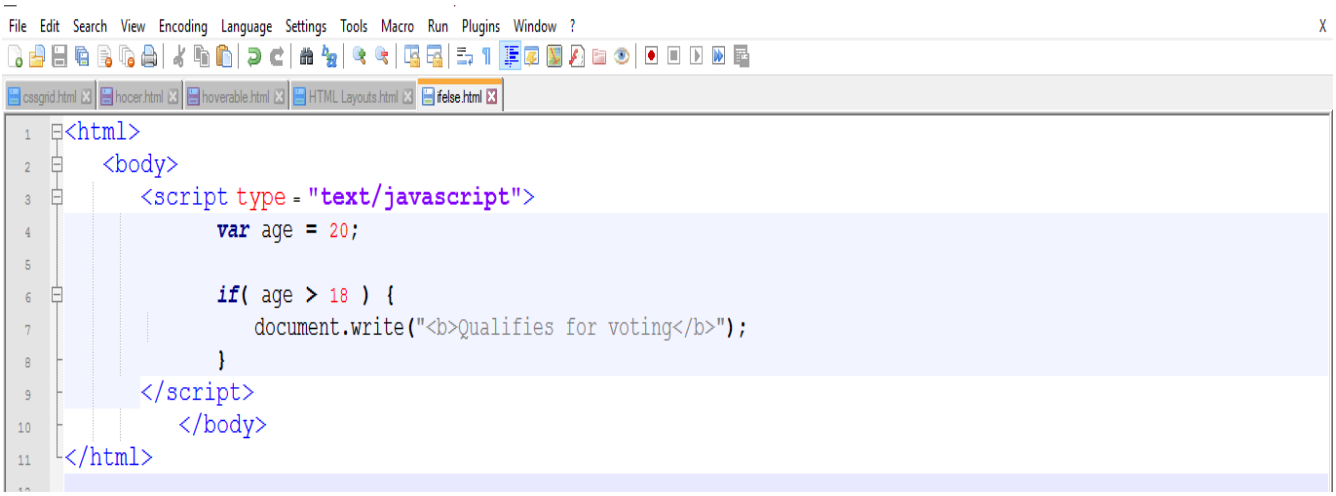
i. if statement

This is simple if statement, and if condition (expression) is true, the block of code is executed. If the expression is false, then no statement would be executed. Mostly comparison operators are used while making decisions.

Syntax

```
if (expression) {
  Code block to be executed if expression is true
}
```

Example



Output

Qualifies for voting

ii. if...else statement

The **'if...else'** statement is the standard if then else statement. In this, if condition (expression) is true, then if block of code is executed. If the expression is false, then else block of code would be executed.

Syntax

```
if (expression) {
        Code block to be executed if expression is true
} else {
        Code block to be executed if expression is false
}
```

Example

Output

Does not qualify for voting

iii. if...else if... statement

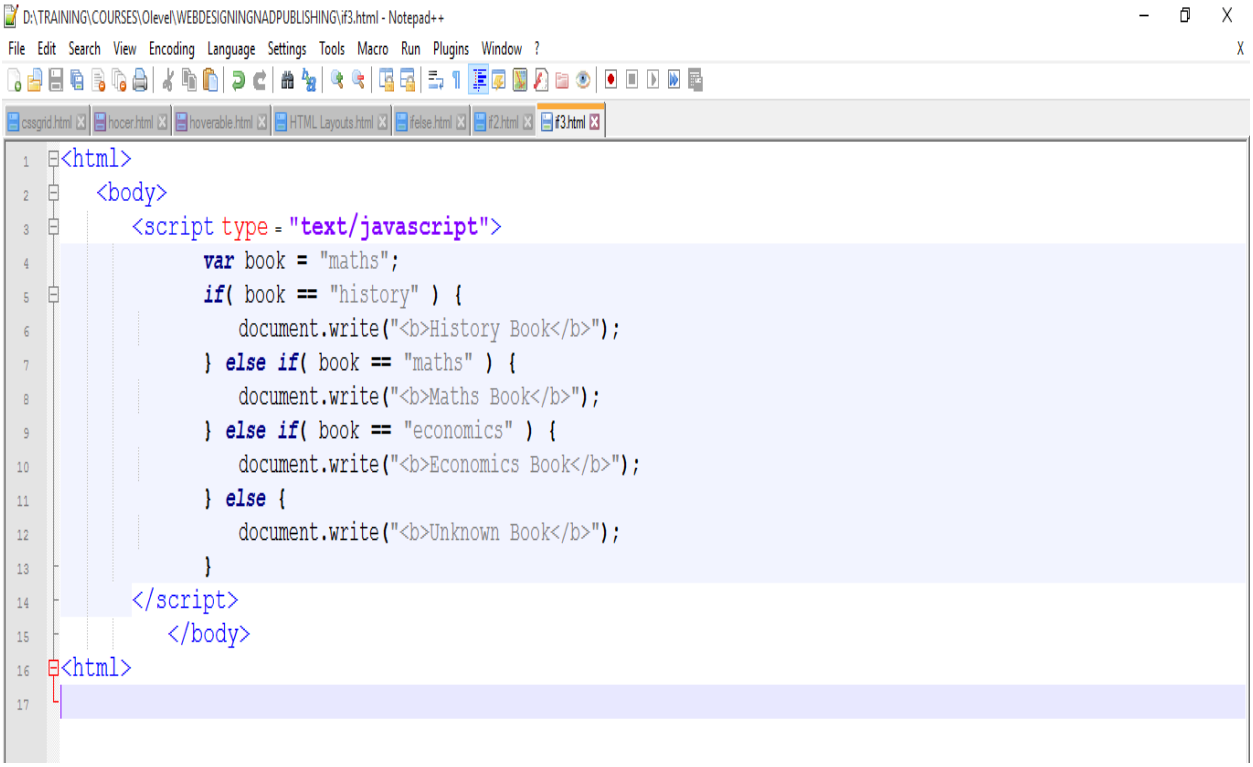
The **if...else if...** statement is an advanced form of **if…else** statement having a series of **if** statements which allows to make a decision out of several conditions (expressions).

Here, each **if** is a part of the **else** clause of the previous statement. Block of codes for each part is executed based on the true condition of that expression, if none of the conditions is true, then the **else** block is executed.

Syntax

```
if (expression-1) {
  Code block to be executed if expression-1 is true
} else if (expression-2) {
Code block to be executed if expression-2 is true
} else if (expression-3) {
Code block to be executed if expression-3 is true
}
……..
else {
  Code block to be executed if no expression is true
}
```

Example



Output

Maths Book

Assignments

1. What is the use of if else statement?
2. What are different ways of using if-else?
3. What are Special data types in JavaScript? Explain them.