Javascript Programming

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Variable in JS

- Variable is a value that can change, depending on conditions or on information passed to the program.

- Rules of variable:
    - Must begin with the characters
    - Should not use spaces
    - Capital and small letters have different meanings
    - Should not use words that are commands in JavaScript

Declaration of Variable

```
var variable_name = value

OR

variable_name = value
```

```
var name;
var name = "Farrel Matthew"
var x = 1998;
var y;
```

```
name = "Steve Kartono"
x = 1990;
y = 08123456789
```

Data Type

- There are four types of data
  - Numeric: 09993838, 1009, 46, 3.146789 etc
  - String: "hello", "june", "North Street 9a", "Courtney Floyd"
  - Boolean: true or false
  - Null: uninitialized variables

- Numeric (integer, real/float)
  For integers, we can represent the decimal base, octal or hexadecimal.
  - var a = 100;
  - var b = 0x2F;
  - var x = 3.14533567;
  - var y = 1.23456E+3;

Data Type

- String

To declare a string type can be done by writing the string between single quotes (') or double quotes (").

```
var str = 'example for string declaration';
var strl = "you can use double quotes to write string";
```

- Boolean

Boolean type only has two values: True or False. This type is typically used to check a condition or circumstance.

```
var x = (y >90);
```

Example above shows that if Y is greater than 90 then X will be True.

Data Type

- Null

  Null type is used to represent the variables that were not given initial values (initialization).

Operator

- Arithmetic
- Assign
- Bitwise
- Comparative
- Logic
- String

Operator - Arithmetic

Operator	Single/binary	Info
+	Binary	Addition
-	Binary	Reduction
*	Binary	Multiplication
/	Binary	Division
%	Binary	Modulus
-	Single	Negation
++	Single	Addition with one
--	Single	Reduction by one

Operator – Assign

Operator	Info	Example	Equivalent
=	Amount	x=y	
+=	Addition with	x+=y	x=x+y
-=	Reduction with	x-=y	x=x-y
*=	Multiplication with	x*=y	x=x*y
/=	Divide with	x/=y	x=x/y
%=	Modulus with	x%=y	x=x%y
&=	Bit AND with	x&y	x=x&y
|=	Bit OR with	x|=y	x=x|y

Operator – String

- Concatenation operator

```
name = "Java" + "Script";
```

Will result "JavaScript"

Code

```html
<html>
<head><title>Arithmetic Operation</title>
</head>
<body>
<p>
<script language="javascript">
  document.writeln("<pre>");
  document.writeln("<h1>Arithmetic Operation</h1>");
  var a = "100";
  var b = "200";
  var c = 300;
  var d = 400;
  var e = a + b;
  document.writeln('"100" + "200"  = '+ e);
  e = b + c;
  document.writeln('"200" + "300"  = '+ e);
  e = c + d;
  document.writeln('"300" + "400"  = '+ e);
  document.writeln("</pre>");
</script>
</body>
</html>
```

Code – Input Data

```html
<html>
<head><title>Input Data</title>
</head>
<body><p>
<script language="javascript">
function added() {
    var num1=parseFloat(document.fform.number1.value);
      if(isNaN(num1))
        num1=0.0;
    var num2=parseFloat(document.fform.number2.value);
      if(isNaN(num2))
        num2=0.0;
    var result=num1+num2;
alert ("The result of adding value = "+result);
}
</script></p>
<form name="fform">
<h1>Input Data</h1>
<pre>
First Number : <input type="text" size="11" name="number1">
Second Number: <input type="text" size="11" name="number2">
</pre><p>
<input type="button" value="Added" onclick="added()">
<input type="reset" value="Reset">
</form>
</body>
</html>
```