

Programming Fundamental

JS

Exploring

#2 Strings & Numbers

Comment

```
// komentar 1 line
```

```
/*
```

```
komentar multiline
```

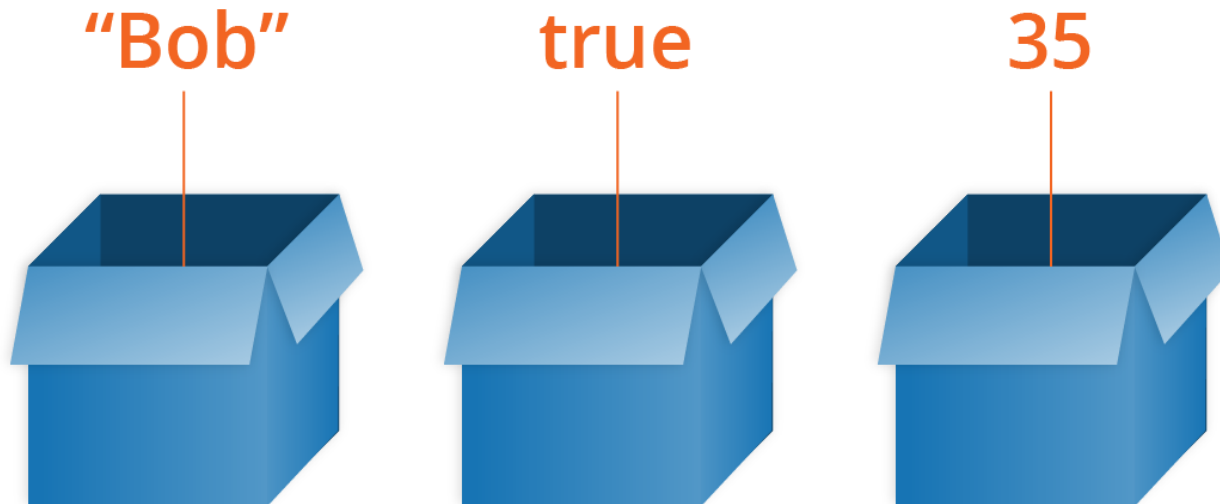
```
komentar multiline
```

```
komentar multiline
```

```
*/
```

Variable

Variables are named values and can store any type of JavaScript value.



Variable

```
var nama = 'Andi';  
console.log(nama);
```

```
var usia = 22;  
console.log(usia);
```

```
let jomblo = true;  
console.log(jomblo);
```

Naming Variables

Variable names rules:

- Start them with a letter, underscore (_), or dollar sign (\$).
- After the first letter you can use numbers, letters, underscores (_), or dollar sign (\$).
- Don't use any JavaScript's reserved keywords, such as var, let, this, etc.

var vs let

```
var x = 21  
var x = 22  
console.log(x);  
// output = 22
```

=====

```
let y = 'hai'  
let y = 'halo'  
console.log(y);  
// SyntaxError
```

Prompt & Alert

<write on HTML!>

```
var kabar = prompt('Apa kabar?');  
//muncul kotak dialog input
```

```
console.log(kabar);  
//tampilkan input di console
```

```
alert(kabar);  
//tampilkan input di alert window
```

Data Type

```
let nama = 'Andi';  
let usia = 22;  
let jomblo = true;  
let kerja;
```

```
console.log(typeof(nama));  
console.log(typeof(usia));  
console.log(typeof(jomblo));
```

```
console.log(typeof(kerja));  
console.log(kerja);
```


Primitive Data Type

string : kumpulan char, text

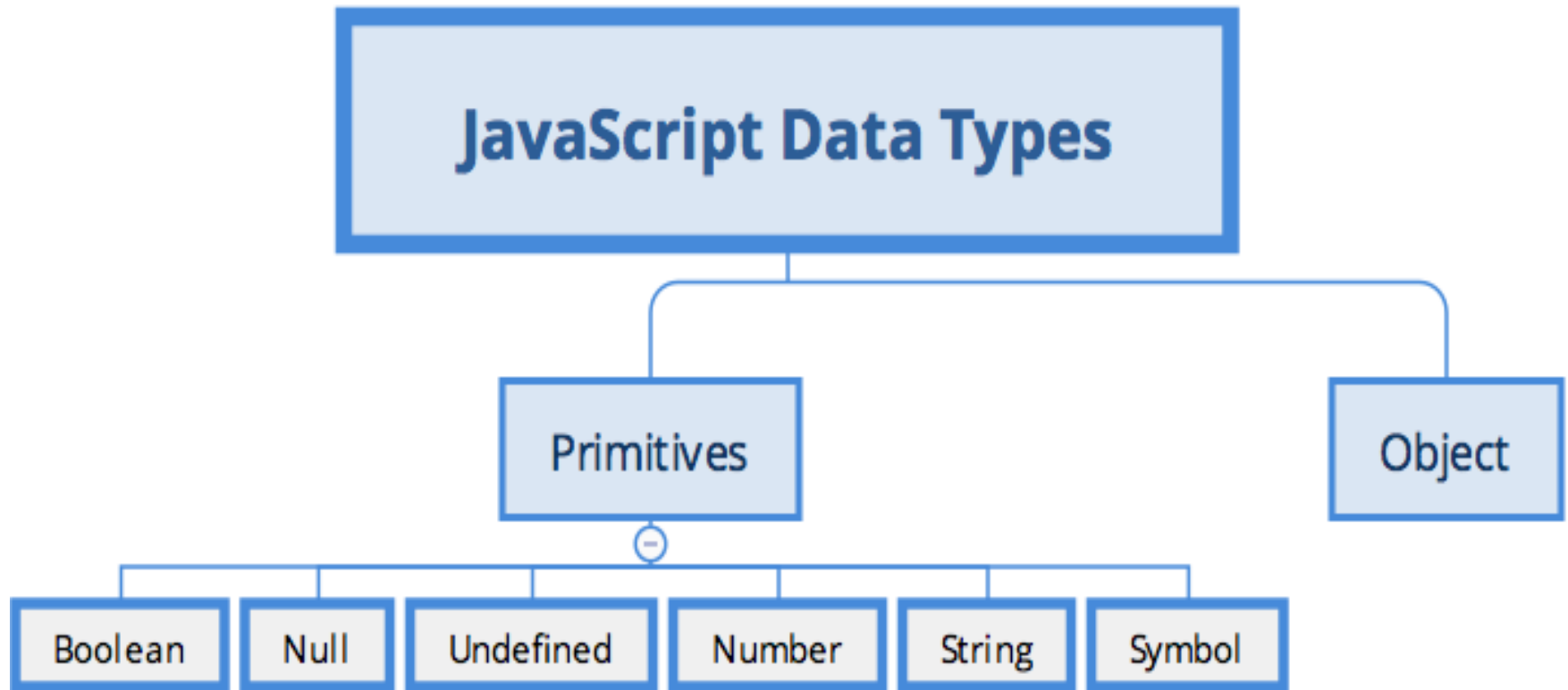
number : integer / float

boolean : logic data type, true/false

undefined : variabel tanpa value

null : tipe value yang belum diketahui

Data Type



Strings

```
var x = 'Halo Dunia';  
  
console.log(x.length);  
  
console.log(x.indexOf('Dunia'));  
  
console.log(x.substr(5, 3));  
  
console.log(x.slice(5, 8));  
  
console.log(x.split(' '));  
//split spasi
```

Strings

```
var x = 'halo';  
var y = 'DUNIA';  
var z = 12345;
```

```
console.log(x.toUpperCase());
```

```
console.log(y.toLowerCase());
```

```
console.log(x.replace('ha', 'mi'))  
console.log(x.replace(/ha/g, 'mi'))
```

```
console.log(z.toString())  
console.log(typeof(z.toString()))
```

Convert Strings to Numbers

```
parseInt( '123' );  
parseFloat( '123' );
```

```
parseInt( '1234.5678' );  
parseFloat( '1234.5678' );
```

```
parseInt( 'Halo Dunia' );  
parseFloat( 'Halo Dunia' );
```

Convert Strings to Numbers

```
let a = parseInt('123');  
let b = parseFloat('123');  
let c = parseInt('1234.5678');  
let d = parseFloat('1234.5678');  
let e = parseInt('Halo Dunia');  
let f = parseFloat('Halo Dunia');
```

```
console.log(a)  
console.log(b)  
console.log(c)  
console.log(d)  
console.log(e)  
console.log(f)
```

Convert Strings to Numbers

```
let a = parseInt('123');  
let b = parseFloat('123');  
let c = parseInt('1234.5678');  
let d = parseFloat('1234.5678');  
let e = parseInt('Halo Dunia');  
let f = parseFloat('Halo Dunia');
```

```
console.log(typeof(a))  
console.log(typeof(b))  
console.log(typeof(c))  
console.log(typeof(d))  
console.log(typeof(e))  
console.log(typeof(f))
```

Adding Strings & Numbers

```
let usia = 22;  
let nama = 'Andi';  
  
console.log(usia + usia);  
console.log(nama + ' ' + nama);  
console.log(nama + usia);
```

/*

Type Coersion: saat dua variabel
beda tipe digabungkan, akan
diconvert ke String.

*/

Numbers

```
var a = 3.14;
```

```
var b = 3;
```

```
var c = 123e5;           // 123 x 105
```

```
var d = 123e-5;          // 123 x 10-5
```

```
var e = 9999999999999999999; // 15x
```

```
var f = 9999999999999999999; // 16x
```

```
var g = 0.2 + 0.1;
```

```
var h = (0.2 * 10 + 0.1 * 10) / 10;
```

Arithmetic Operators

Operator	Description
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus
++	Increment
--	Decrement

Arithmetic Operators

```
var usiaAndi = 40;  
var usiaBudi = 20;
```

```
console.log(usiaAndi * usiaBudi);  
console.log(usiaAndi / usiaBudi);  
console.log(usiaAndi + usiaBudi);  
console.log(usiaAndi - usiaBudi);  
console.log(usiaAndi % usiaBudi);  
console.log(usiaAndi ** usiaBudi);
```

Arithmetic Operators

```
var usiaAndi = 40;  
var usiaBudi = 20;
```

```
usiaAndi++    // usia Andi +1  
usiaAndi++  
console.log(usiaAndi);
```

```
usiaBudi--    // usia Budi -1  
usiaBudi--  
console.log(usiaBudi);
```

Arithmetic Operators

```
var usiaAndi = 40;  
var usiaBudi = 20;
```

```
usiaAndi+=2;  
// usiaAndi = usiaAndi+2
```

```
usiaBudi*=2;  
// usiaBudi = usiaBudi*2
```

```
console.log(usiaAndi);  
console.log(usiaBudi);
```

Basic Math Object

```
console.log(Math.PI);  
console.log(Math.abs(-4.7));  
console.log(Math.pow(8, 2));  
console.log(Math.sqrt(64));  
console.log(Math.cbrt(8));
```

Round, Ceil & Floor

```
console.log(Math.round(4.7));
```

```
console.log(Math.round(4.4));
```

```
console.log(Math.floor(4.7));
```

```
console.log(Math.ceil(4.4));
```

Random, Max & Min

```
console.log(Math.random());
```

```
console.log(Math.max(1,3,5));
```

```
console.log(Math.min(1,3,5));
```


Basic Date Object

```
let a = new Date()
```

```
console.log(a.getFullYear())
```

```
console.log(a.getMonth())
```

```
console.log(a.getDate())
```

```
console.log(a.getDay())
```

```
console.log(a.getHours())
```

```
console.log(a.getMinutes())
```

```
console.log(a.getSeconds())
```

```
console.log(a.getMilliseconds())
```

Basic Date Object

<code>getFullYear()</code>	Get year (yyyy)
<code>getMonth()</code>	Get month (0-11)
<code>getDate()</code>	Get day as a number (1-31)
<code>getDay()</code>	Get weekday number (0-6)
<code>getHours()</code>	Get hour (0-23)
<code>getMinutes()</code>	Get minutes (0-59)
<code>getSeconds()</code>	Get seconds (0-59)
<code>getMilliseconds()</code>	Get milliseconds (0-999)
<code>getTime()</code>	Get time (ms since Jan 1, 1970)

Basic Date Object

```
d:\zzz\kids>node 2  
23/1/2018  
11:51
```

Solve It! #1

if $x = 4, y = 3 \text{ \& } z = 2$

$$w = \left(\frac{x + y \times z}{x \times y} \right)^z = ?$$

Solve It! #2

×

This page says:

Silakan masukkan angka berapapun:

OK

Cancel

×

This page says:

Kuadrat dari 2 = 4

OK

Solve It! #3

$$\sqrt[3]{8} = ?$$

Solve It! #4

485 hari.

Nyatakan dalam tahun,
bulan, minggu dan hari.

*1 bulan = 30 hari, 1 tahun = 360 hari.

Solve It! #5

Saat ini, jumlah usia Andi & Budi =
49 th, dengan rasio Usia Andi & Budi
= 0.4.

Berapa usia Andi & Budi
2 tahun lagi?

fredhopelane@gmail.com

Solve It! #6

```
Administrator: C:\Windows\system32\cmd.exe

D:\Purwadhika\Lintang Course PPT\7 Javascript\Solusi Soal>node 7

Hari ini tanggal 17-10-2017

Besok tanggal 18-10-2017

Kemarin tanggal 16-10-2017

D:\Purwadhika\Lintang Course PPT\7 Javascript\Solusi Soal>
```

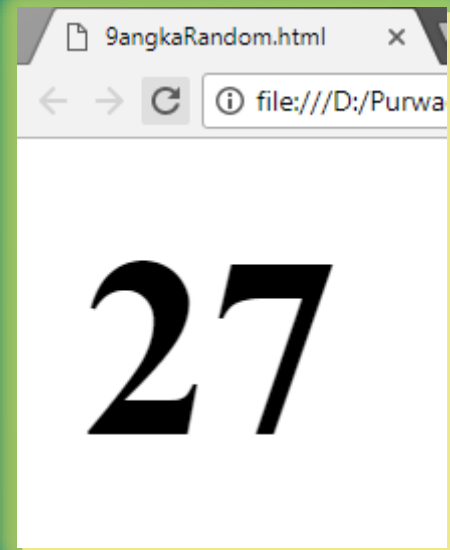
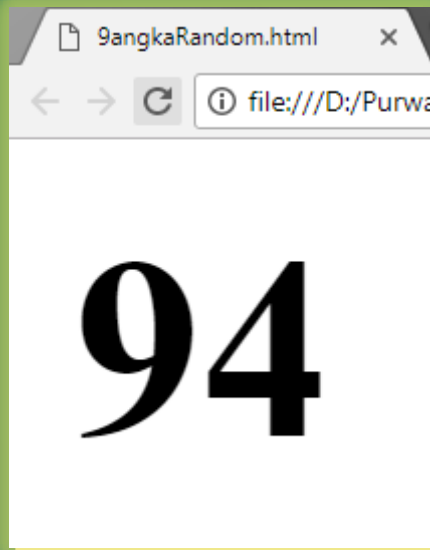
**Buatlah algoritma untuk
menghitung karakter tertentu
dalam String!**

**Misal: “Halo Dunia” memiliki
huruf ‘a’ sebanyak 2 buah.**

Jarak mobil A & B = 120 km.
A berjalan 60km/h dari timur.
B berjalan 40km/h dari barat.
A & B start pukul 9 WIB.

Jam brp A & B bertabrakan?

Tampilkan bilangan acak (antara 1-100) di Browser



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