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Matkul: SIG Berbasis Web

# Javascript: Bahasa Pemrograman Web

Dany Laksono | Dept. Teknik Geodesi UGM



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# Javascript: Bahasa Pemrograman Web

- Client-side dan Server-side Scripting
- Javascript, Bahasa Pemrograman Web
- Framework dan Library Javascript
- Latihan-Latihan

LOCALLY ROOTED, GLOBALLY RESPECTED



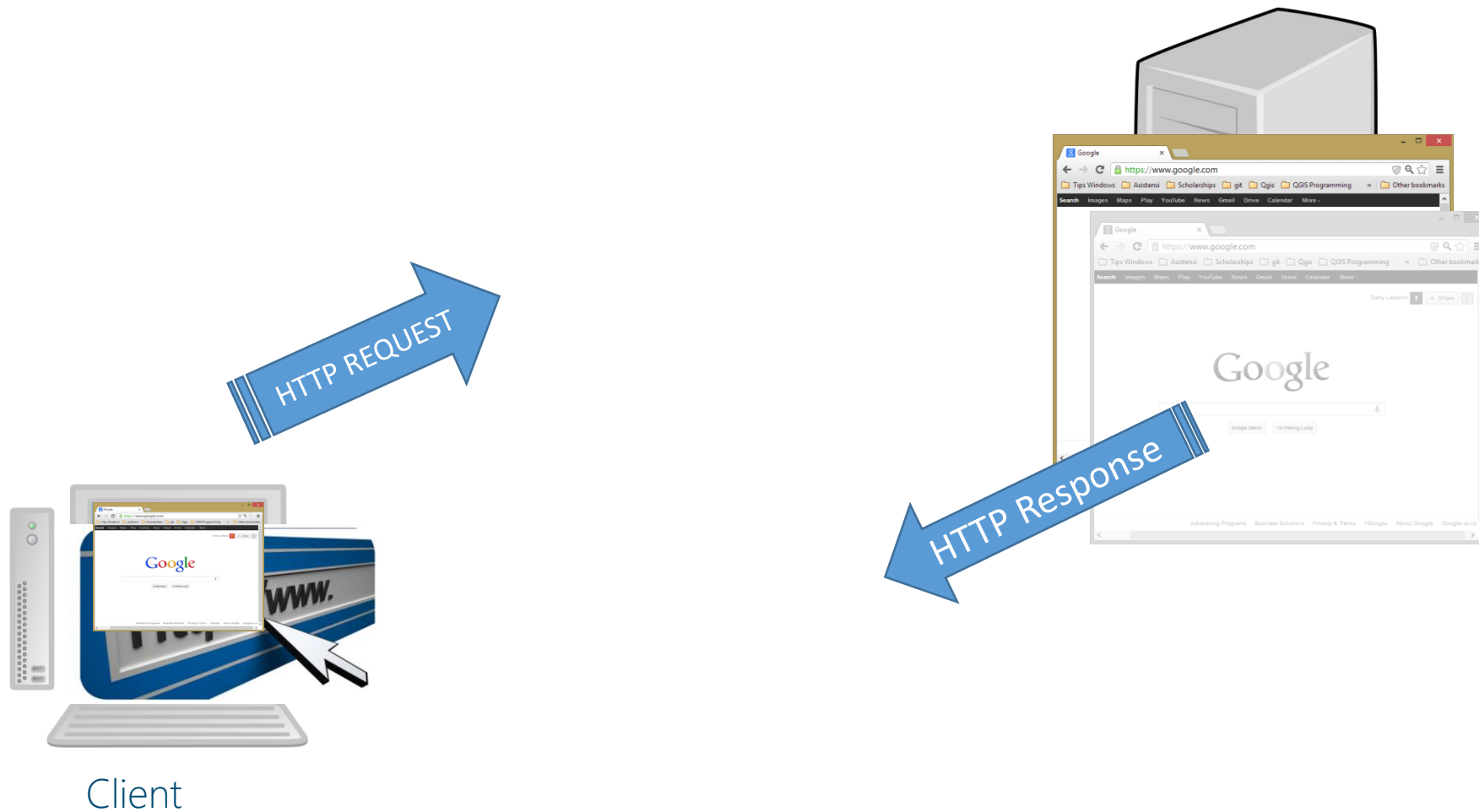
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# Client-side dan Server-Side Scripting

Dasar Internet dan WebGIS

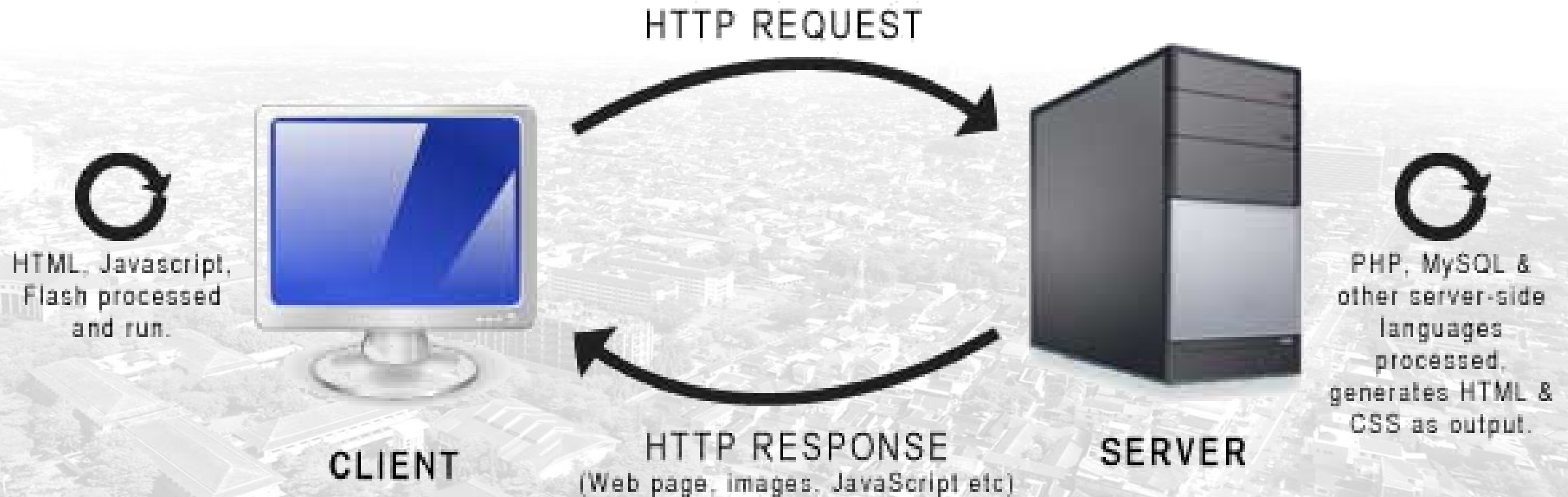


# How 'Internet' Works

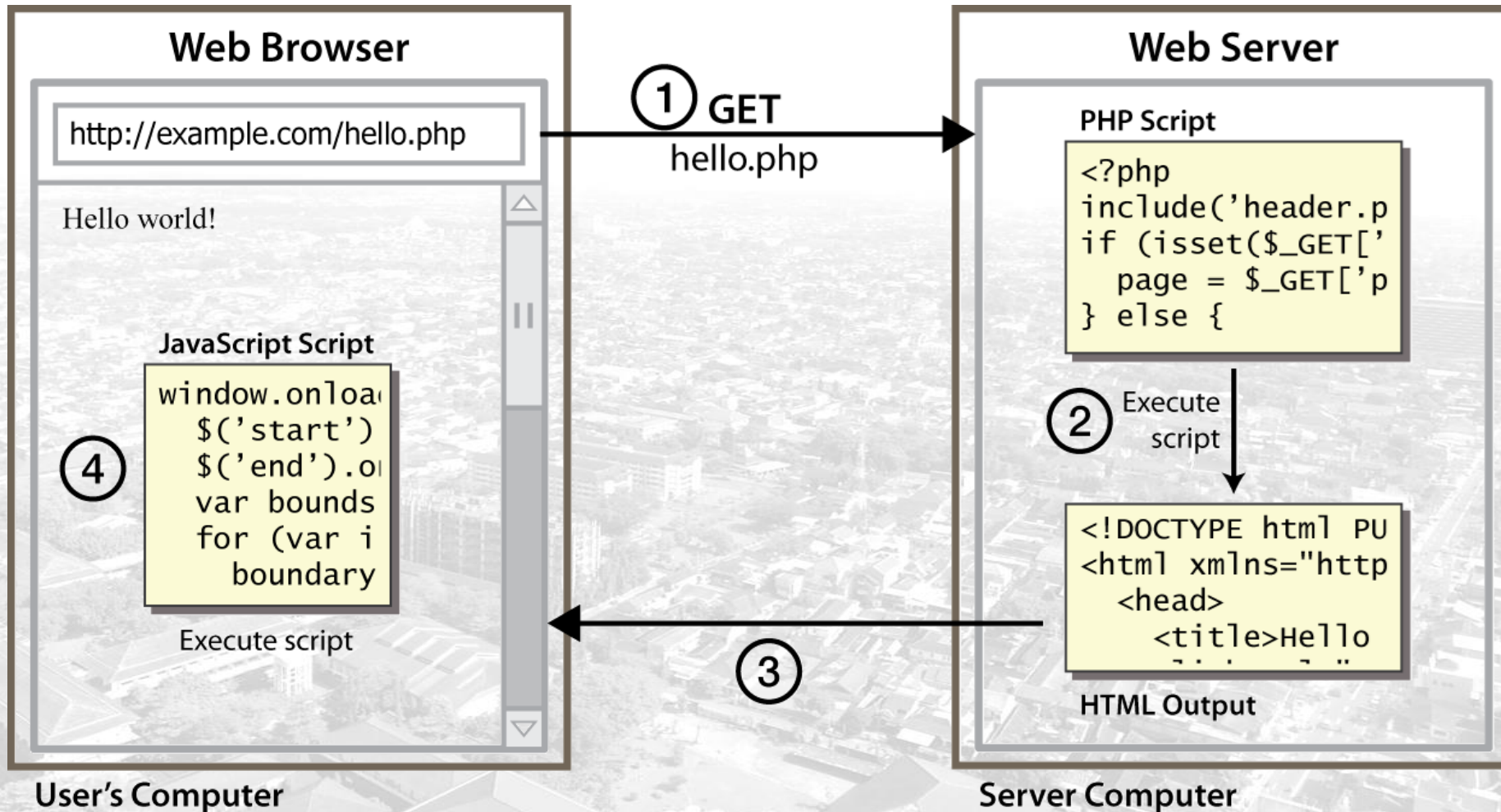




# Client-side vs Server-side Scripting



# Client-side vs Server-side Scripting



# Client-side vs Server-side Scripting



# VS



## CLIENT SIDE

- Frontend
- Collects user input
- Client side scripts mostly deal with visual and user input
- Script “dimasak” di Browser (client)
- Scripts may be restricted to run in a sandbox

## SERVER SIDE

- Backend
- Processes user input
- Script “dimasak” oleh server sebelum disajikan ke Browser
- Processes deal with transactions and complex computations
- Processes are transparent to the users





# Javascript

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Bahasa Pemrograman Web





# Bahasa Javascript



HTML5



CSS3

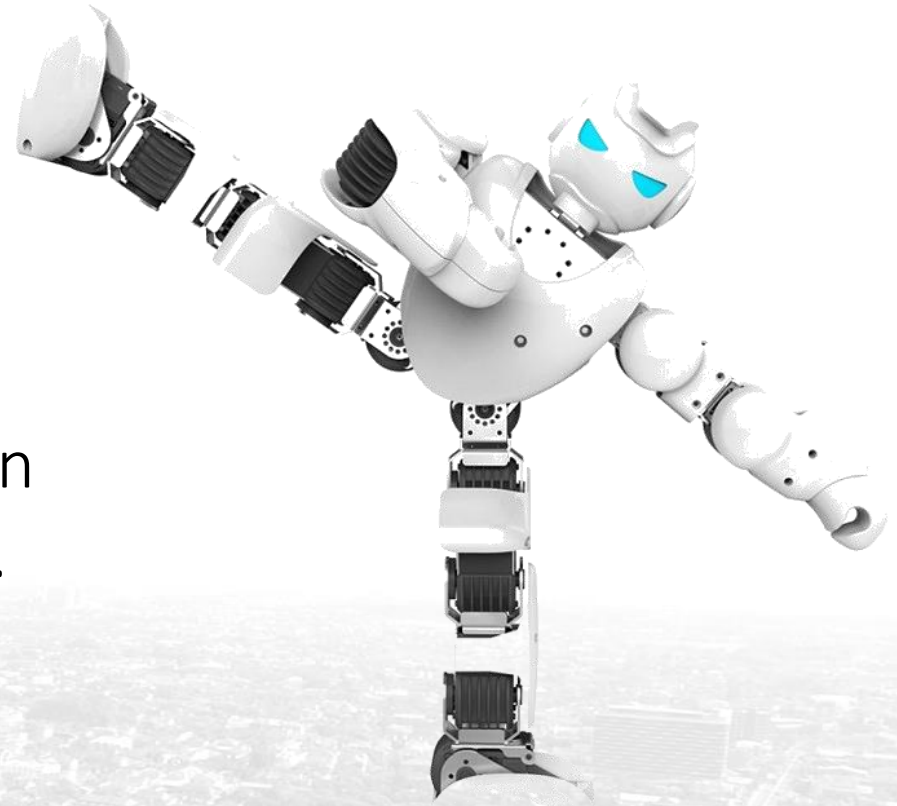


JavaScript

HTML dan CSS adalah *Markup Language*, untuk mengatur komponen dan tampilan sebuah halaman Web  
JavaScript adalah *Bahasa pemrograman Web*

# Bahasa Javascript

Bahasa pemrograman memerintahkan bagian tertentu dari robot untuk melakukan suatu aksi, seperti bergerak, berputar, dst.



## Menu Pengguna

Tampilkan Peta

Javascript, Bahasa pemrograman web, memerintahkan elemen tertentu (misalnya *button*) pada halaman web untuk melakukan suatu aksi

# Object, Properties dan Method

**Properties** are **values** associated with objects  
**Methods** are **actions** that objects can perform

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**Object**



**Properties**

car.name = Fiat

car.model = 500

car.weight = 850kg

car.color = white

**Methods**

car.start()

car.drive()

car.brake()

---

**Event** is something happens to the object or the environment around it

**Event:** The car is starting!



# Bahasa Javascript

Javascript dikombinasikan dengan HTML dan CSS untuk menyediakan halaman web yang *dinamis* dan *interaktif*

```
<!DOCTYPE html>
<html>
<body>
  <h1>What Can JavaScript Do?</h1>
  <p id="demo">JavaScript can change HTML content.</p>
  <button type="button"
    onclick="document.getElementById('demo').innerHTML =
    'Hello JavaScript!'"> Click Me!
  </button>
</body>
</html>
```



# Bahasa Javascript

*HTML dan CSS:*

```
<html>
<body>
  <h1 id="teks" style="color:blue">
    Text ini aslinya warna biru </h1>
  ...
</body>
</html>
```

*Javascript (isikan pada titik-titik di atas):*

```
<script>
  document.getElementById("teks").style.color="red";
</script>
```

# Bahasa Javascript

Bagaimana JS dipanggil pada HTML?

How?

Examples

1 External Link `<script src="peringatan.js" />`

2 Embed in HTML  
`<script>  
    window.alert('peringatan!');  
</script>`

3 Inline html tag  
`<button type="button"  
onclick="document.getElementById('demo').innerHTML = Date()">  
Click me to display Date and Time.</button>`

4 Import from other JS  
`$.getScript("myscript.js", function(){ alert("Script loaded and executed.");  
});`



# Beberapa konsep Javascript

## Numbers and Strings

10.50    "John Doe"

1001    'John Doe'

## Expressions

5 + 6

5 \* 10

## Operators

```
var x = 5;
```

```
var y = 6;
```

```
(5 + 6) * 10
```

## Defining variables

```
var x;
```

```
x = 6;
```

## Case Sensitive

```
lastName = "Doe";
```

```
lastname = "Peterson";
```

## Comments

```
var x = 5;    // I will be executed
```

```
// var x = 6;    I will NOT be  
executed
```

```
/*  
This is  
Multiline comment  
*/
```

# Beberapa konsep Javascript

## Datatype

```
var length = 16;           // Number
var lastName = "Johnson"; // String
var cars = ["Saab", "Volvo", "BMW"]; // Array
var x = {firstName:"John", lastName:"Doe"}; // Object
```

## Function

```
var x = myFunction(4, 3);

function myFunction(a, b) {
  return a * b;
}
```

Javascript



Please Just Work



# Beberapa konsep Javascript

## Conditional 'if'

```
if (hour < 18) {  
    greeting = "Good day";  
} else {  
    greeting = "Good  
evening";  
}
```

## 'while' loop

```
while (i < 10) {  
    text += "The number is " + i;  
    i++;  
}
```

## 'For' loop

```
for (i = 0; i < cars.length;  
i++) {  
    text += cars[i] + "<br>";  
}
```

## 'do while' loop

```
do {  
    text += "The number is " + i;  
    i++;  
}  
while (i < 10);
```

# Beberapa konsep Javascript

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

Operator	Example	Same As
=	$x = y$	$x = y$
+=	$x += y$	$x = x + y$
-=	$x -= y$	$x = x - y$
*=	$x *= y$	$x = x * y$
/=	$x /= y$	$x = x / y$
%=	$x \% = y$	$x = x \% y$





# Framework dan Library

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# Framework dan Libraries

A **framework** encapsulates common application functionality, allowing the developer to focus on the parts that are unique to their application. Usually that means the developer writes pieces of code that get called by the framework when various things happen; [Angular](#), for example.

**Libraries** are packages of code that typically get called by your application to perform a task, like DOM manipulation or HTTP requests; [ThreeJS](#), for example.





an open-source JavaScript library  
for mobile-friendly interactive maps



[Overview](#) [Tutorials](#) [Docs](#) [Download](#) [Plugins](#) [Blog](#)

Sep 4, 2020 — [Leaflet 1.7.1](#) has been released!

Leaflet is the leading open-source JavaScript library for mobile-friendly interactive maps. Weighing just about 39 KB of JS, it has all the mapping [features](#) most developers ever need.

Leaflet is designed with *simplicity*, *performance* and *usability* in mind. It works efficiently across all major desktop and mobile platforms, can be extended with lots of [plugins](#), has a beautiful, easy to use and [well-documented API](#) and a simple, readable [source code](#) that is a joy to [contribute](#) to.





Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.

[Download Bootstrap](#)

Currently v3.3.2



# Latihan- latihan

Javascript Bahasa Pemrograman  
Web



Investment	Value at Year end
339 970	373 967
56 969	804 029
817	1 296 731
58	1 859 317
6	2 499 808
	3 227 076
	4 050 935
	R 28 331

# Game ON!

<https://blockly.games/>

Bahasa Indonesia ▾



Permainan untuk programmer masa depan [Info selengkapnya...](#)



Puzzle



Labirin



Burung



Kura-kura



Film



Music

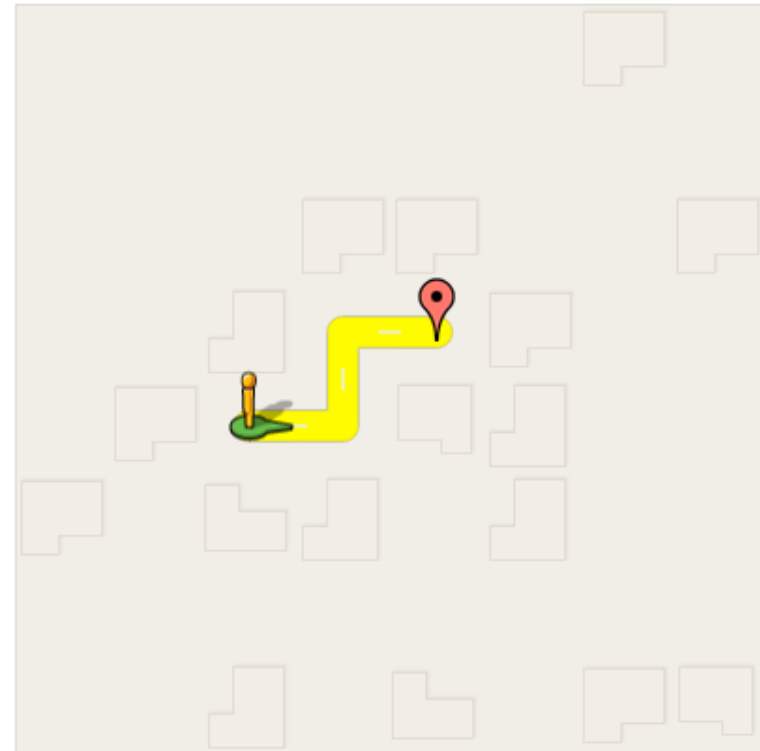


Kolam Pembimbing



Kolam





▶ Jalankan Program

bergerak maju

belok kiri ↶

belok kanan ↷

bergerak maju

bergerak maju

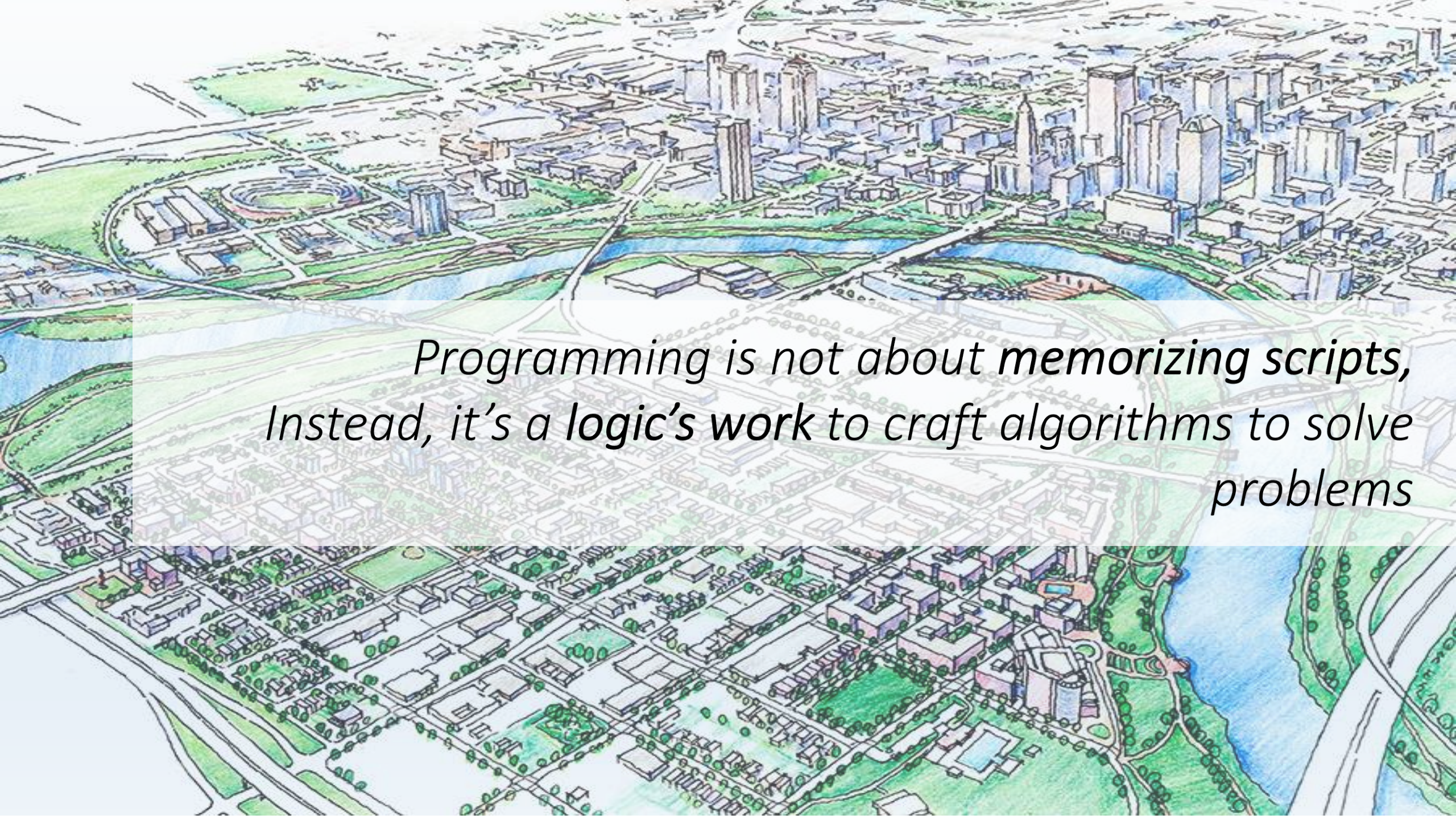
belok kiri ↶

bergerak maju

Gunakan pilihan langkah yang tersedia untuk menyusun algoritma dan menyelesaikan permainan





An aerial architectural rendering of a city. The scene is dominated by a wide river that flows from the top left towards the bottom right. On the left bank, there's a large, circular stadium-like structure. The right bank is densely packed with various buildings, including several tall skyscrapers. The foreground shows a grid of streets with smaller buildings and green spaces. The overall style is a detailed, colorful architectural sketch.

*Programming is not about memorizing scripts,  
Instead, it's a logic's work to craft algorithms to solve  
problems*





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# TERIMA KASIH

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