

Programming Fundamental



Introduction to JavaScript

Programming Fundamental

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Why Should You Learn to Code?


“Everybody in this country should learn how to program a computer... because it teaches you how to think.”

- Steve Jobs

What Is Your Motivation?

Why Should You Learn Javascript?

Worldwide, Mar 2020 compared to a year ago:

Rank	Change	Language	Share	Trend
1		Python	30.09 %	+3.9 %
2		Java	18.84 %	-1.7 %
		Javascript	8.1 %	-0.1 %
4		C#	7.27 %	-0.0 %
5		PHP	6.08 %	-1.1 %
6		C/C++	5.86 %	-0.2 %
7		R	3.73 %	-0.2 %
8		Objective-C	2.42 %	-0.5 %
9		Swift	2.28 %	-0.1 %
10		Matlab	1.89 %	-0.1 %

With JavaScript you can build:

- Web App
- Desktop App
- Mobile App
- Server App
- IoT App, Arduino, etc.

A lot of community support and open source project.






<http://pypl.github.io/PYPL.html>

Top JS Front-End Frameworks 2019

1		Vue.js A progressive, incrementally-adoptable framework for building ...	+31.4k ★
		React A declarative, efficient, and flexible JavaScript library for buildi...	+22.9k ★
3		Svelte Cybernetically enhanced web apps	+20.0k ★
4		Angular One framework. Mobile & desktop.	+12.0k ★
5		Omi Next Front End Framework	+3.8k ★

<https://risingstars.js.org/2019/en/>






Top React Ecosystem 2019

1		Ant Design A UI Design Language and React UI library	+14.6k ★
2		Create React App Set up a modern web app by running one command.	+13.5k ★
3		Gatsby Build blazing fast, modern apps and websites with React	+11.5k ★
4		Next.js The React Framework	+10.6k ★
		Material UI React components for faster and easier web development. Build...	+10.2k ★









<https://risingstars.js.org/2019/en/>

Top Node JS Back-End Frameworks 2019

1		Nest A progressive Node.js framework for building efficient, scalable, ...	+11.5k ★
2		Next.js The React Framework	+10.6k ★
3		Strapi Open source Node.js Headless CMS to easily build customisable ...	+10.2k ★
4		Nuxt The Vue.js Framework	+7.4k ★
		Express Fast, unopinionated, minimalist web framework for node.	+5.1k ★

<https://risingstars.js.org/2019/en/>


Top JS Mobile Frameworks 2019

		React Native A framework for building native apps with React.	+11.3k ★
2		Quasar Responsive Single Page Apps, Server-side Render Apps, Progressive Web A...	+5.0k ★
3		Ionic Build amazing Native and Progressive Web Apps with web technologies. O...	+3.6k ★
4		Expo An open-source platform for making universal native apps with React. Exp...	+3.5k ★
5		cube-ui A fantastic mobile ui lib implement by Vue	+2.6k ★

<https://risingstars.js.org/2019/en/>

Top Code Editor 2020

Worldwide, Mar 2020 compared to a year ago:

Rank	Change	IDE	Share	Trend
1		Visual Studio	24.08 %	+1.2 %
2		Eclipse	17.26 %	-4.1 %
3		Android Studio	16.7 %	-0.6 %
	↑↑	Visual Studio Code	6.49 %	+2.0 %
5	↑↑	pyCharm	6.0 %	+1.8 %

<http://pypl.github.io/IDE.html>



JS

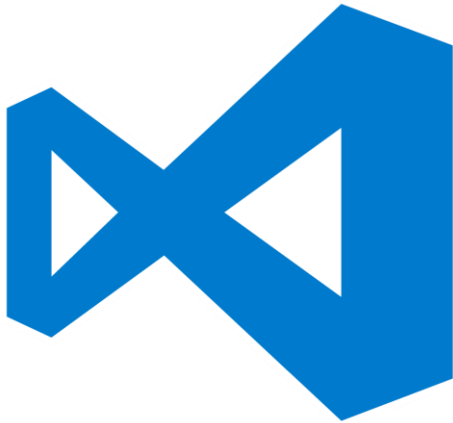
JavaScript often abbreviated as JS, is a high-level, dynamic, weakly typed, object-based, multi-paradigm, and interpreted programming language.

Alongside *HTML* and *CSS*, JavaScript is one of the three core technologies of World Wide Web content production.



Node.js® is a JavaScript runtime built on Chrome's V8 JavaScript engine. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js' package ecosystem, ***npm***, is the largest ecosystem of open source libraries in the world.

SetUp



Visual Studio Code

Download & install here:

code.visualstudio.com

Node.Js

Download & install here:

nodejs.org

\$ node --version

\$ node -v



Make your first JS file #1

<Running Node Shell on prompt #1>

- * Buka terminal <run cmd>
- * Ketik **node** lalu enter
- * Ketik program & enter untuk eksekusi
- * Ketik **process.exit()** untuk keluar

```
console.log( 'Halo' );
```

Make your first JS file #2

<Running on command prompt #2>

```
console.log( ' Halo' );
```

- * Simpan sebagai **file.js**
- * Buka terminal <run cmd>
- * Masuk ke direktori **file.js**
- * Eksekusi **node file.js**

Make your first JS file #3

<Insert JS on HTML>

```
<script>  
    console.log('Halo Dunia');  
</script>
```

- * Simpan sebagai **file.html**
- * Buka **file.html** di browser
- * Inspect & lihat hasil di tab console

Make your first JS file #4

<Insert JS on HTML, running on web page>

```
<script>  
  document.write('Halo Dunia');  
</script>
```

- * Simpan sebagai **file.htm**
- * Buka **file.htm** di browser
- * Hasil langsung terlihat di page

Make your first JS file #5

<inner HTML>

```
<p id="demo"></p>
```

```
<script>  
document.getElementById("demo").innerHTML = 5 + 6;  
</script>
```

- * Simpan sebagai **file.htm**
- * Buka **file.htm** di browser
- * Hasil langsung terlihat di page

Make your first JS file #6

<Running on browser, calling from HTML>

```
console.log( 'Halo' );
```

- * Simpan sebagai **file.js**
- * Buat file HTML berikut (**file.htm**)

```
<script src="file.js"></script>
```

- * Buka **file.htm** di browser
- * Inspect & lihat hasil di tab console

Comment

// komentar 1 line

/*

komentar multiline

komentar multiline

komentar multiline

***/**

dirname & filename

```
console.log(__dirname);  
// menampilkan directory path
```

```
console.log(__filename);  
// menampilkan file path
```

Variabel

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

```
var usia;  
usia = 22;  
usia = 32;  
console.log(usia);
```

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

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>

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

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

```
alert(kabar);  
//tampilkan input di alert window  
</script>
```


Solve It!

Buatlah sebuah aplikasi interaktif (user input) dengan prompt & alert, kemudian input dari user ditampilkan di console.

Solve It!

This page says

Silakan ketik nama Anda:

OK Cancel

This page says

Ketik tanggal lahir Anda:

OK Cancel

This page says

Ketik alamat lengkap Anda:

OK Cancel

This page says

Ketik pendidikan terakhir:

OK Cancel

This page says

Silakan ketik pekerjaan Anda:

OK Cancel

This page says:

Data berhasil disimpan.
Terima kasih atas partisipasi Anda.

OK

Elements Console Sources

top

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Alamat: Paradise Serpong City

Pendidikan: S1 Teknik Informatika

Profesi: Software Developer

>

Solved!

```
<script>
```

```
var nama = prompt('Silakan ketik nama Anda:');  
console.log('Nama: ' + nama);
```

```
var tglahir = prompt('Ketik tanggal lahir Anda:');  
console.log('Tgl Lahir: ' + tglahir);
```

```
var alamat = prompt('Ketik alamat lengkap Anda:');  
console.log('Alamat: ' + alamat);
```

```
var pendidikan = prompt('Ketik pendidikan terakhir:');  
console.log('Pendidikan: ' + pendidikan);
```

```
var profesi = prompt('Silakan ketik pekerjaan Anda:');  
console.log('Profesi: ' + profesi);
```

```
alert('Data berhasil disimpan. \n Terima kasih atas  
partisipasi Anda.');
```

```
</script>
```

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