# Life is Possible - 生命教育 手機程式工作坊

Lecture 01 - Introduce to Programming

### Menu

- What is coding / programmers do?
- Why do we need to code?
- What should I learn for?
- Install and setup
- Lab time

## What do coding / programmers do?

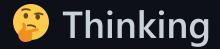
## Q. What do coding / programmers do?

- Sitting in front of the computer 8 hours a day?
- Talking to the computers?
- Endless typing and typing?
- Drinking coffee all days?
- print("Hello world") ?
- More...?

## A. What do coding / programmers do?

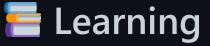


# Coding is...





**Communicating** 



# Why we need to code?

## A. Why we need to learn coding?

- Interested in CS / EE related fields?
- For jobs?
- Coding is cool!
- My mom told me to do so!?
- For fun?
- ect...?

## coding == "programmers" ? true : false ;

Big hypothesis: Programmers have to code

Small hypothesis: Some job roles needs to code, not only programmers Q.E.D?

#### Various type of Coding related languages

#### Software Engineers

- Java / C# / Rust / Kotlin
- JavaScript / Typescript
- PHP / HTML / CSS

#### 🖺 Data / Al

- Python
- R
- Excel

### NevOps related

- JSON / YMAL
- Python
- JavaScript / Typescript

### Security

- Linux operations
- PHP / JS / Python ...
- More audit tools ...

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### Computer related jobs

#### Software Engineers

- Mobile Apps developers <- Here</li>
- Frontend developers <- Here</li>
- Backend developers

#### 🖺 Data / Al

- Deep learning Engineer
- Machine learning Engineer
- Data researchers

#### DevOps

- DevOps Engineer
- Cloud Engineer
- Architecture Engineer

### Security

- Information Security Engineer
- White hacker
- Risk Manager

## Frontend / Mobile Apps developers?

https://roadmap.sh/frontend/

https://roadmap.sh/react/

and more...

## What we will learn these days?

- Fundamental нтмь
- Fundamental css
- Fundamental Javascript
- Use of Github and Github Desktop
- Vercel or Netlify to deploy

#### Outcome

• A Web apps (PWA) that deploy to cloud services / applications in Google Play.

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# Fundamental HTML

HTML is the standard markup language for Web pages

To learn how to write a website structure with it.

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## Fundamental CSS

CSS is the language we use to style an HTML document.

To learn how to beauty a website with it.

# Fundamental Javascript

JavaScript is the programming language of the Web.

To learn how to programming in HTML documents.

### Use of Github

GitHub, Inc is an Internet hosting service for software development and version control using Git.

To learn how to use github for deploy projects.

## Vercel to deploy

Vercel is the platform for frontend developers, providing the speed and reliability innovators need to create at the moment of inspiration.

To learn how to deploy the website in the internet.

## Why not to learn writing an real apps?

- You can learn to write a real app with React Native javascript in the future. (https://reactnative.dev/)
- Javascript is multi-use and widely adapts in various fields.
- Backend with express.js, frontend with Vue / React / Svelte, Al with tensorflow.js ...
- Good to learn the fundamentals, then go to apps development if interested.

# Break

## Install and setup

- Installing Visual Studio Code (VSC)
- Installing Nodejs

## Why Visual Studio Code (VSC)?

- Free
- Huge community
- Easy to use
- Powerfull in assisting JS / HTML / CSS coding
- Relatively light weight and cross platform

### **VSC** download

https://code.visualstudio.com/

#### How to use VSC?

- Open a File
- Enter the File with code . in terminal
   (MacOS: https://code.visualstudio.com/docs/setup/mac)
   (Cmd+Shift+P => type Shell Command: Install 'code' command in PATH then enter)
- Create a file
- Create a folder
- Delete a folder / file
- Using VSC terminal with pwd / cd / 1s
- Installing extensions

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### pwd / cd / 1s cheatsheet

#### pwd (print work directory)

1. pwd will print where you are at the terminal.

#### cd (change directory)

- 1. cd <filename> will goto that folder e.g. cd public .
- 2. cd .. will back to the previous folder path.

#### 1s (list directory)

- 1. 1s will list all the file / folder in the terminal.
- 2. 1s -a / 1s -1a will list all details in the terminal.

## What is Node.js?

- A javascript base runtime for PC
- For running javascript on PC
- Compile javascript to machine code

# Node.js download

https://nodejs.org/en/

## Check if Node.js installed

- 1. Open your (Windows: Powershell / CMD) (MacOS: Terminal)
- 2. Type node --version then press enter.
- 3. If you see this message, means you are successful to install.

```
PS C:\Users\reemo> node --version v18.13.0
```

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# Break

# Lab time

## Lab 1: Create a project

### Lab 2: HTML

Using VSC in index.html, copy the following text to the file

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <h1>Hi i am peter</h1>
</body>
</html>
```

Then rename the peter to your name. Then open the index.html.

#### Lab 3: Hello world!?

In play.js, copy the following text to the file.

```
// play.js
console.log("Hello I am peter")
```

type node play.js then see if these messages are printed on the terminal.

```
PS D:\apps-workshops\lecture-01\lab> node play.js\
Hello I am peter
```

Then rename the peter to your name, then try the node play.js again.

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# End - Enjoy