





Python coding

wk01:

Introduction to coding Python

Basic Python coding for HCit

INJE University

1st semester, 2021

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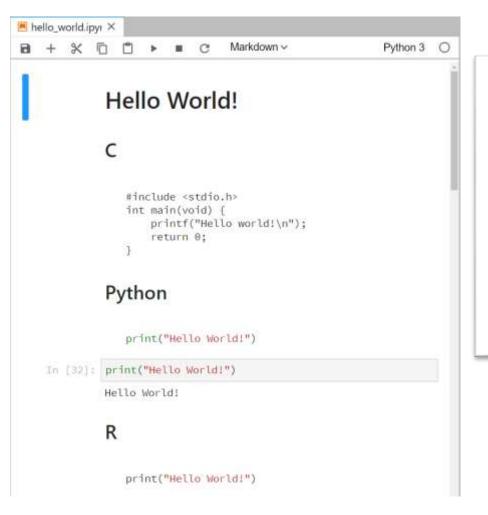
PB01	김동욱
PB02	김민구
PB03	김수웅
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PB12	조현
PB13	조현준
PB14	진한승
PB15	박성규

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"Hello World!" DEMO

Hello World!





```
Javascript (Node.js)

console.log("Hello World!")

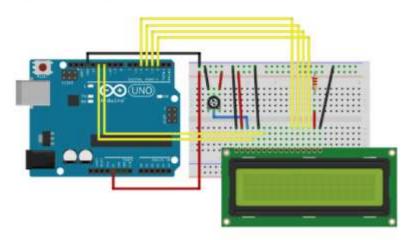
Java

public class HelloWorld {
    public static void main(String[] args) {
        // Prints "Hello, World" to the terminal window.
        System.out.println("Hello, World");
    }
}
```

Arduino

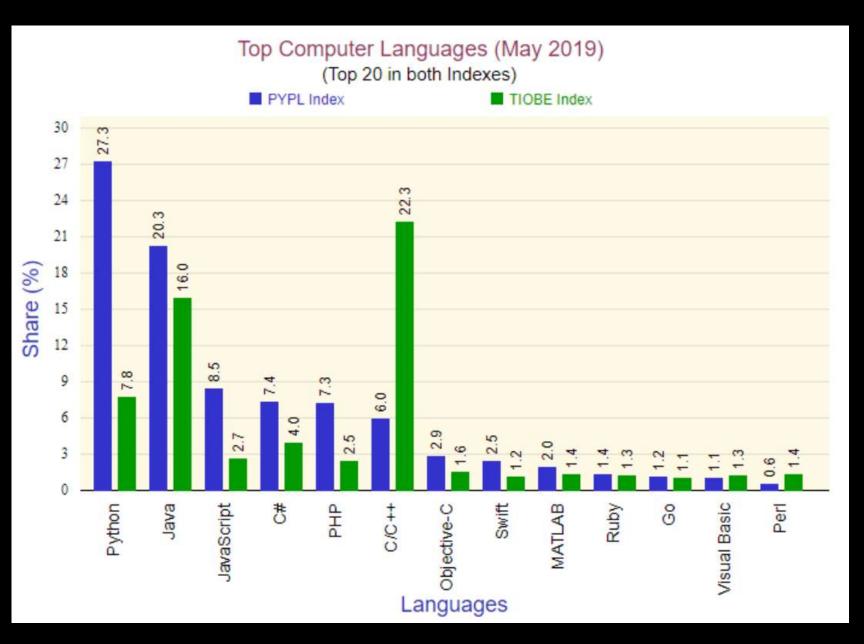
```
// include the library code:
#include <LiquidCrystal.h>
// initialize the library by associating any needed LCD interface pin
// with the arduino pin number it is connected to
const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);
void setup() [
  // set up the LCD's number of columns and rows:
  lcd.begin(16, 2);
  // Print a message to the LCD.
  lcd.print("hello, world!");
void loop() (
  // set the cursor to column 0, line 1
  // (note: line 1 is the second row, since counting begins with \theta):
  lcd.setCursor(0, 1);
  // print the number of seconds since reset:
  lcd.print(millis() / 1000);
```

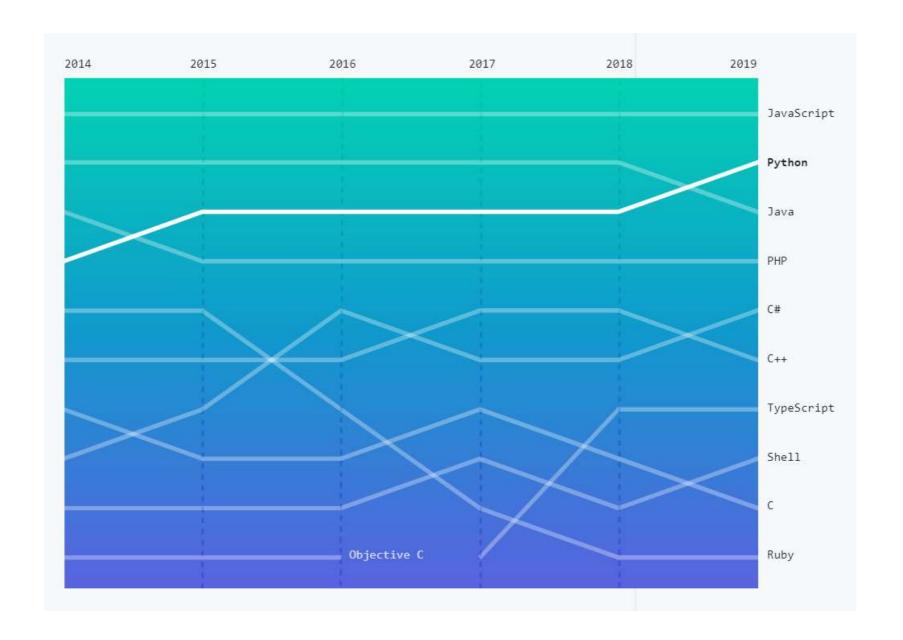
Arduino circuit with LCD

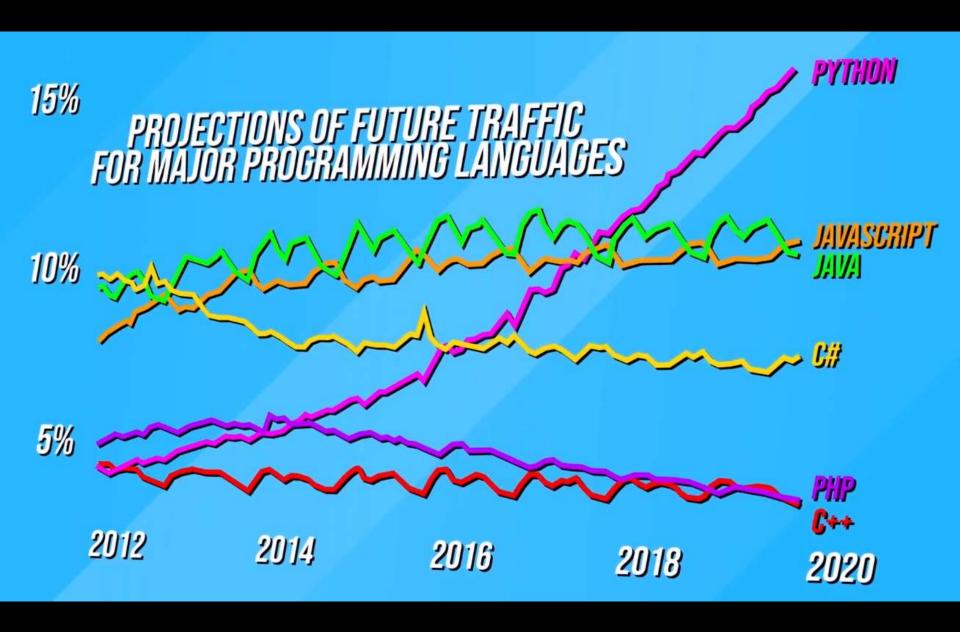


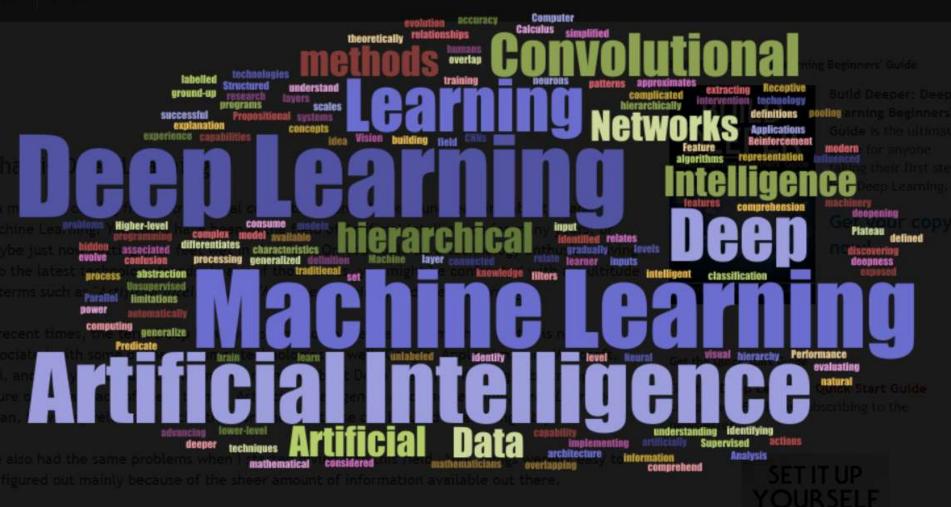
Output on LCD

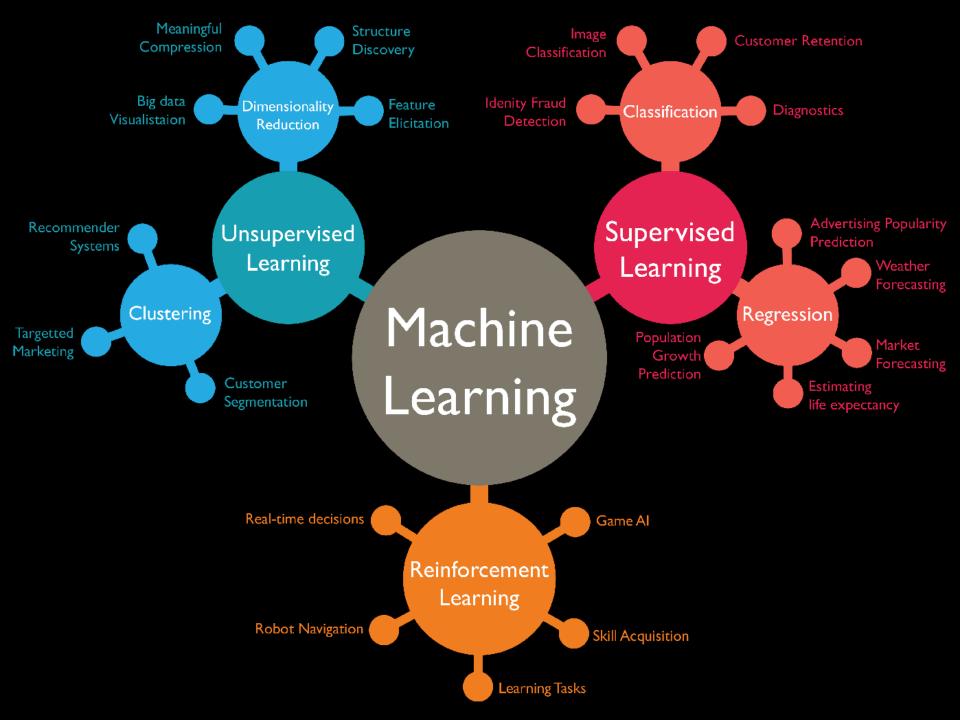






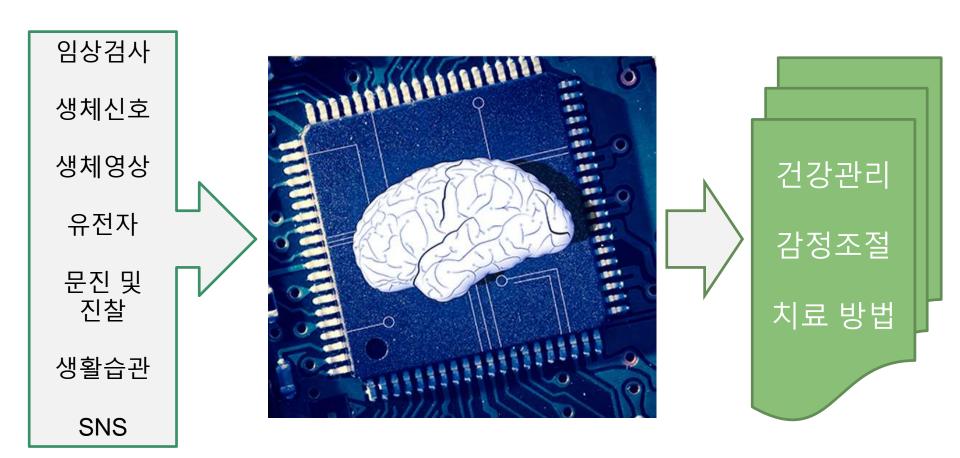






A mostly complete chart of Neural Networks Backfed Input Cell Deep Feed Forward (DFF) ©2016 Fjodor van Veen - asimovinstitute.org Input Cell Noisy Input Cell Radial Basis Network (RBF) Perceptron (P) Feed Forward (FF) Hidden Cell Probablistic Hidden Cell Spiking Hidden Cell Recurrent Neural Network (RNN) Long / Short Term Memory (LSTM) Gated Recurrent Unit (GRU) Output Cell Match Input Output Cell Recurrent Cell Memory Cell Auto Encoder (AE) Variational AE (VAE) Denoising AE (DAE) Sparse AE (SAE) Different Memory Cell Kernel Convolution or Pool

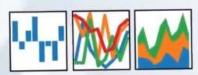
Machine(Deep) learning with brain chip



















Mobile python

□ JupyterLab - Python

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TensorFlow.js

Getting Started

Tutorials & Guides

API Reference

FAO

TRY IT LIVE!

GITHUB



A JavaScript library for training and deploying ML models in the browser and on Node.js

Develop ML with JavaScript

Use flexible and intuitive APIs to build and train models from scratch using the low-level JavaScript linear algebra library or the high-level layers API

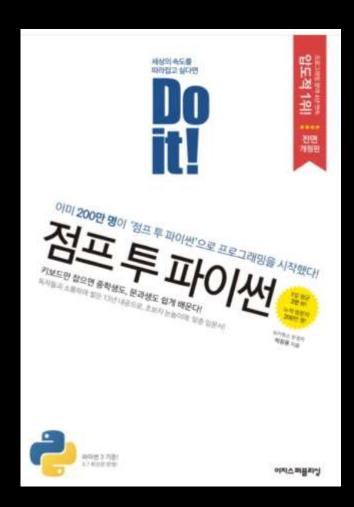
Run Existing Models

Use TensorFlow.js model converters to run pre-existing TensorFlow models right in the browser or under Node.js.

Retrain Existing Models

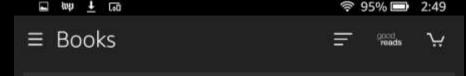
Retrain pre-existing ML models using sensor data connected to the browser, or other client-side data.

교재/참고도서

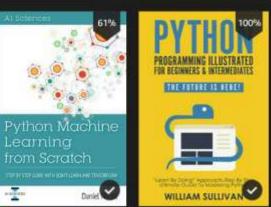


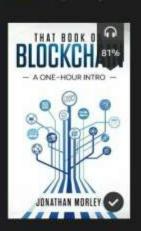


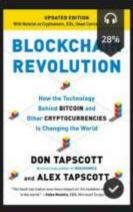




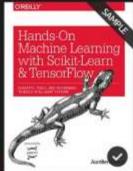
ALL DOWNLOADED

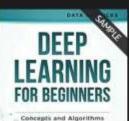






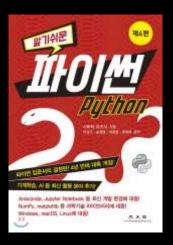






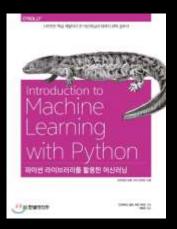




















Hands-On Deep Learning Algorithms with Python

By Sudharsan Ravichandi....

512 pages Jul 2019

Understand basic-to-advanced deep learning algorithms, the mathematical principles behind them, and...

Resume



Learning - Third Edition

By Sebastian Raschka, V...

770 pages Dec 2019

Applied machine learning with a solid foundation in theory. Revised and expanded for Tensor Flow...

Resume



Deep Learning Quick Reference

272 pages Mar 2018

Dive deeper into neural networks and get your models trained, optimized with this guick reference...

Resume



Deep Reinforcement Learning Hands-On -Second Edition

By Maxim Lapan

826 pages Jan 2020

New edition of the bestselling guide to deep reinforcement learning and how it's used to solve...

Resume



Advanced Deep Learning with Python

468 pages Dec 2019

Gain expertise in advanced deep learning. domains such as neural networks, metalearning, graph...

Resume



Deep Learning with TensorFlow 2 and Keras - Second Edition

By Antonio Gulli, Amita...

646 pages Dec 2019

Build machine and deep learning systems with the newly released TensorFlow 2 and Keras for the...

Resume



Hands-On Machine Learning with TensorFlow.js

Intelligent Projects

By Santanu Pattanayak

Using Python

By Kai Sasaki

296 pages Nov 2019

Get hands-on with the browser-based JavaScript library for training and deploying machine learning...

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Hands-On Deep Learning for IoT

By Dr. Mohammad Abdur R....

308 pages Jun 2019

Implement popular deep learning techniques to make your IoT applications smarter

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Machine Learning Ouick Reference

294 pages Feb 2019

Your hands-on reference guide to developing. training, and optimizing your machine learning models

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Intelligent Project Using Python

By Mike Bernico

342 pages Jan 2019

Implement machine learning and deep learning methodologies to build smart, cognitive Al projects...

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Machine Learning for Finance

Book

By Jannes Klaas

456 pages May 2019

A guide to advances in machine learning for financial professionals, with working Python code

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Python Deep Learning -Second Edition



By Ivan Vasiley, Daniel...

386 pages Jan 2019

Learn advanced state-of-the-art deep learning techniques and their applications using popular...

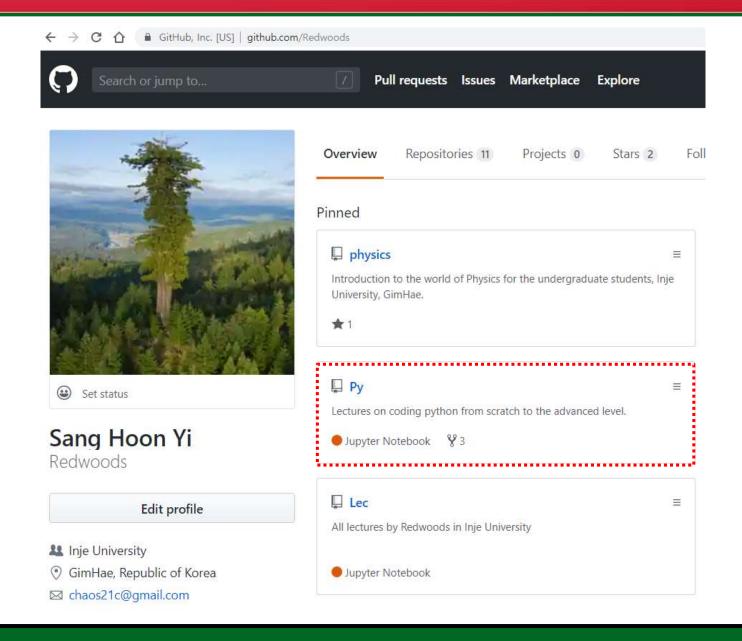
Resume

성적평가기준

평가방법	평가비율(%)
중간고사	30%
기말고사	30%
출석	15%
과제(github) 및 퀴즈	25%

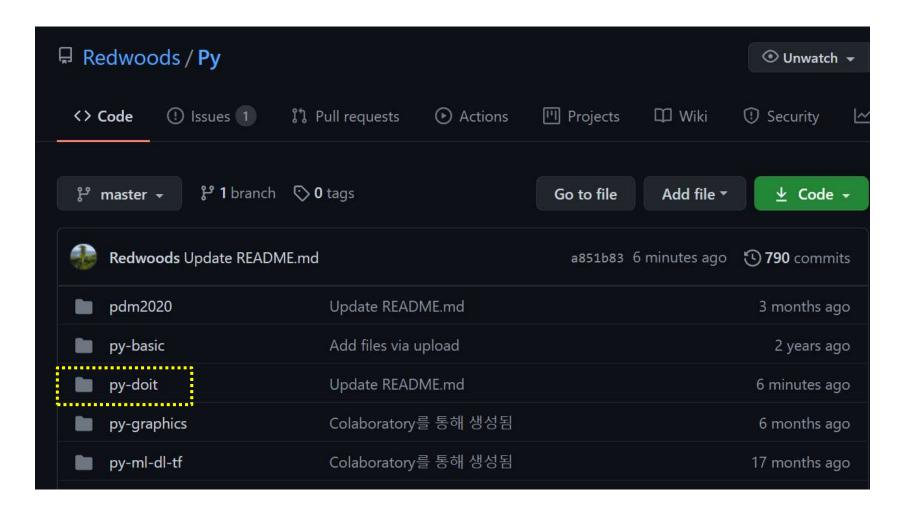


github.com/Redwoods



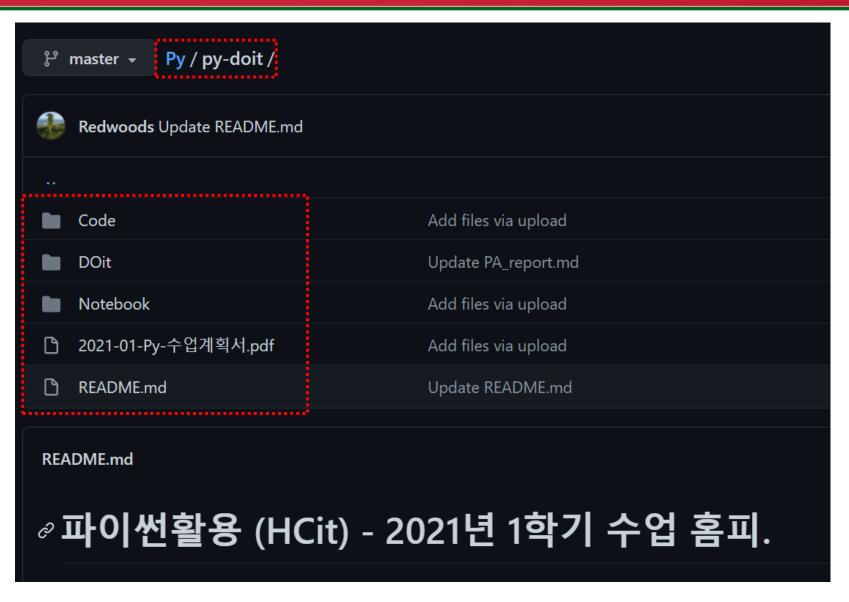


github.com/Redwoods/Py





github.com/Redwoods/py/py-doit





Lecture materials

References & good sites

- <u>https://www.anaconda.com/distribution/</u> Python download
- ✓ https://code.visualstudio.com/download VSCode download
- √ http://www.github.com GitHub
- √ https://drive.google.com/drive/my-drive Google drive
- ✓ http://colab.research.google.com Colab