

Learn Python: From beginner to Intermediate

Python基础学习

About this course 关于本课

This course is for middle school students which interested in but with little or no prior knowledge of programming. It covers the fundamental concepts of Linux computer, like terminal, Command line interface, and python programming. The main goal of this course is to guide students from a state of complete programming illiteracy to a level of programming knowledge which allows him or her to read, write, run and debug programs written in Python.

本课面向于对计算机编程感兴趣，但无编程经验的中学生。课程涉及计算机的基本概念，如终端，命令行界面，和Python语言编程。本课程的目标为，引导学生从对计算机编程一无所知到能够使用Python编程语言读，写，运行和对代码进行纠错。并且对于编程开发有一定认识。

Words from Lecturer:

Hi, every one. I am the lecturer for this class and my name is Zhiyu Wang. I graduated from Boston University with a Master of Science degree in Electrical and Computer Engineering. Currently, I work as a full-time software engineer for a network company at Boston Downtown. I have been studying computer science for 6 years and have 3 years python programming experience. I am very excited to be able to share my understanding of python and programming with you.

大家好。我是本科的任课老师，我叫王微宇。我毕业于波士顿大学电子计算机工程硕士研究生项目。目前，我作为全职软件工程师，就职于波士顿市中心的一家网络技术公司。我在计算机科学方向上有6年的学习经历以及3年的Python编程经验。非常高兴可以将我对于Python的理解和编程的经验分享给大家。

Course Overview

Week 1 to 4:

Week 1, Intro to Computer program, terminal, and Python.

In this lecture, we will talk about what is computer program, and what's the difference between nature language and programming language. What is GUI and what is Command line interface? What is python?

Practice:

- *introduce terminal, and basic commands such as ls, pwd, cd.*
- *install python on machines.*
- *Write the first python program, "Hello world".*

Week 2, Python Basic I:

1. Print command.
2. Variables.
3. Comments

Week3, Python Basic II:

1. arguments, inputs
2. Numbers and Maths

Week 4, Python Basic III:

1. if else
2. true or false type

Week 5 to 8:

week 5, Data structure:

1. List
2. For loop

Week 6:

1. Dictionary
2. import library

Week 7:

1. Read Files
2. Read and write files

Week 8:

1. System argument
2. Input

Week 9 to 12:

Week 9:

1. Functions

Week 10:

1. Define a couple of functions.
2. Main function: `__main__`

Week 11:

Intro to Raspberry Pi.

Practice: Connect the Raspberry Pi with a monitor and keyboard and turn it on to see its system.

Week 12: Burn the image into an sd card, and install the system for raspberry pi.

Week 13 to 16:

Final Project Raspberry Pi, LED matrix lighting.

Week 13, Project kick-off, demo the result.

Week 14, Solution discussion

Week 15, Walking through the code.

Week 16, Questions.

https://www.amazon.com/CanaKit-Raspberry-Starter-Premium-Black/dp/B07BCC8PK7/ref=sr_1_5?keywords=raspberry+pi+3+B%2B&qid=1572753258&sr=8-5

\$84.99

<https://www.adafruit.com/product/4121>

\$13.95

Example:

https://www.youtube.com/watch?time_continue=426&v=nn9gQ4wUefg

Starts at 7:09