

Getting Started with Python

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Outcomes

- After completing this presentation, you are expected to be able to:
 1. Understand the history and some background information of the Python programming language
 2. Install Python and start using Python through the command line tool and IDLE

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Computer Programming Languages

- Computer programming languages have been developed over the last 50 years
- There are hundreds of them
- For this course we will use a language called *Python*

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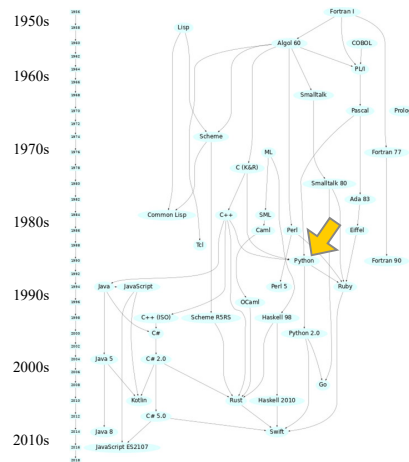
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Evolution of Programming Languages

- Only the main programming languages are shown here
- We can ignore all of them except Python

From <http://rigaux.org/language-study/diagram.html>



Python

Guido Van Rossum



- Started by a guy who was bored during Christmas 1989
- He made a computer language with these qualities:
 - a language just as powerful as other languages
 - code that is almost as understandable as simple English
 - suitable for everyday tasks, so you can quickly make a useful program
 - open source, so anyone can contribute to its development

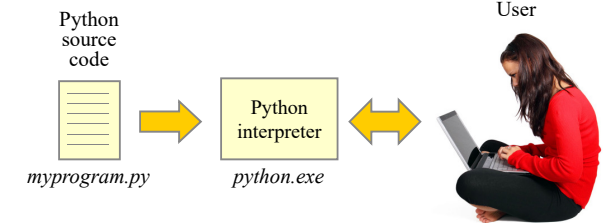
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Executing a Python Program

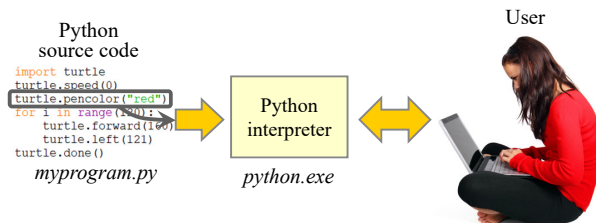
- Python programs have to be 'given' to a Python *interpreter* for execution



- We say that Python code is *interpreted*
- This is the most common way that Python is used

Python is Interpreted

- *Interpreted* means that each line of code is given to the interpreter and executed, one by one



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Different Versions of Python

- Python version 1 – this version disappeared a long time ago
- Python version 2 – this version officially died early 2020
- Python version 3 – this version is what we use
- Python 3.9 is the version we use this semester
- You can install it in your own computer, see next slide
 - This is probably the way most students use Python
- You can also run it virtually – details a few slides later
- (It has also been installed in all the ITSC computer barns, the Virtual Barn, and the CS department labs)

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Installing Python on Your Machine

- You need to do this
- Get the installation file from the COMP1021 web site:

Getting Started with Python
[1spp, 4spp, 6spp, 9spp]
Different ways to access Python [here](#)

• Here's some ways you can access Python

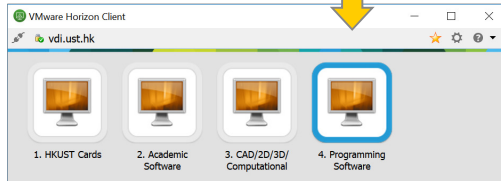
1. To do COMP1021 work on **your own computer**, you need to install Python on it
 - You should install one of these files (from [here](#)), which are the same versions we use on the course:
 - Python for Windows (64 bits) - [python-3.9.5-amd64.exe](#)
 - Python for Windows (32 bits) - [python-3.9.5.exe](#)
 - Python for MacOS X (11 or later) - [python-3.9.5-macos11.pkg](#)
2. Python is already installed in the **Virtual Barn environment** of ITSC:
 - Please see [here](#) for more information
3. The **ITSC Computer Barns** already have Python installed, at the HKUST campus
 - You can go to these physical rooms whenever you want

• The computers in the Computer Science Department (CSD) **lab room** also have Python installed, but we won't go there this semester

PC users
Mac users
All users, optional but useful

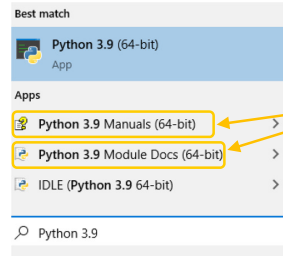
The Virtual Barn

- The Virtual Barn is useful for several reasons e.g. it lets you access Python through the web
- It is optional
- See our guide: [Getting Started with Python](#) [1spp, 4spp, 6spp, 9spp]
- After you run the software you can find Python here



After Installing Python 3.9

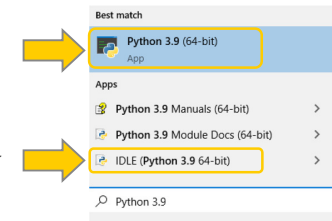
(These images are from a PC)



- After installing, you will see several options if you search for *Python* or perhaps *Python 3.9* in Windows
- Here is some documentation about Python
 - Probably you won't need to look at this, the COMP1021 notes and labs should be enough

Using Python

- Let's look at how we can start using Python
- There are two ways we will look at now



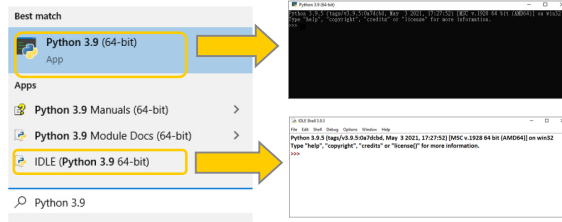
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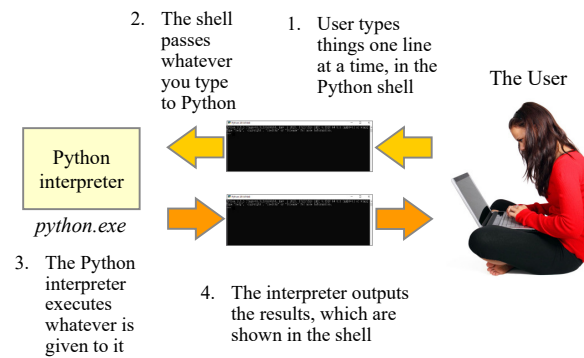
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Using Python

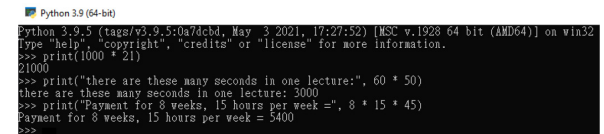
- Both options give you a *shell*



The Basic Idea of Using a Python Shell



Using a Python Shell – Some Simple Python Code



>>> is generated by the shell,
it means 'this is where your input is shown'

Using the IDLE Environment

- The IDLE environment is better
- One reason is that colours are automatically used, which is sometimes very helpful for understanding
- We'll see other useful features of IDLE soon, especially in the lab work that we'll do

