

Configuration for Labs

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Overview

- OS
 - Windows 10, Ubuntu Desktop 18.04.x LTS
- Tools
 - Microsoft Office 2013 or 2016
 - Oracle VirtualBox 5.2.x
- Python
 - 3.7.x+
- Anaconda
- Google Colab

Overview

■ Libraries

- NumPy
- SciPy
- Scikit-learn
- Matplotlib
- Pandas
- Seaborn
- Bokeh
- etc...

Overview

■ Deep Learning Framework

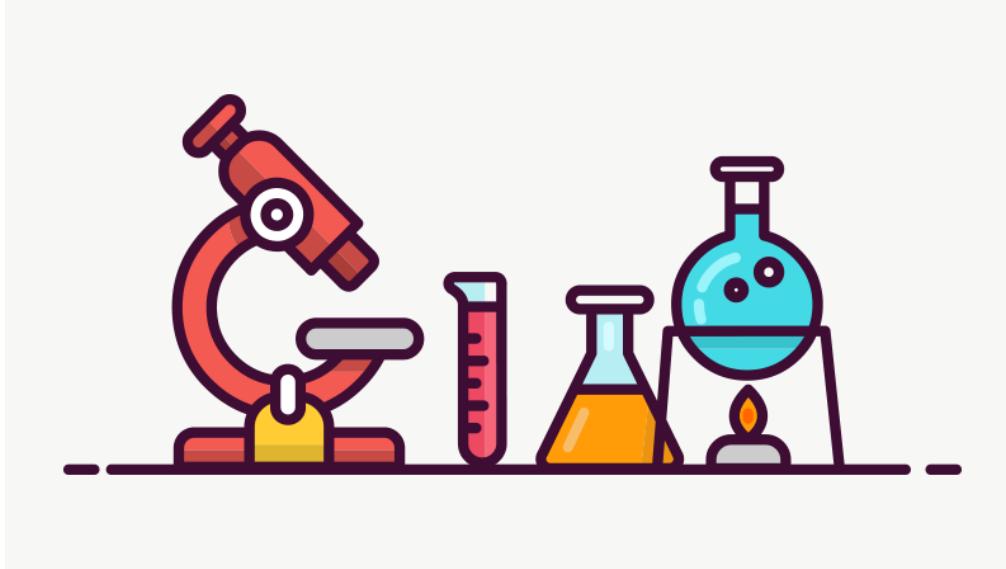
- TensorFlow
- Keras
- PyTorch

Ubuntu 18.04 LTS

- 대부분의 내용은 OS에 상관없이 설치 또는 구현 가능.
- 다만, 전처리에서 형태소 분석기 **Mecab**의 경우에는 Windows versio에 따라 설치가 어렵거나 불가할 수도.
- KoNLPy와 mecab-ko 사이의 호환에는 WSL(Windows Subsystem for Linux, Windows 10에 포함) 환경이 필요 할 수도.
- 원래 PyTorch는 얼마전까지 Windows 환경을 공식적으로 지원하지 않았음.

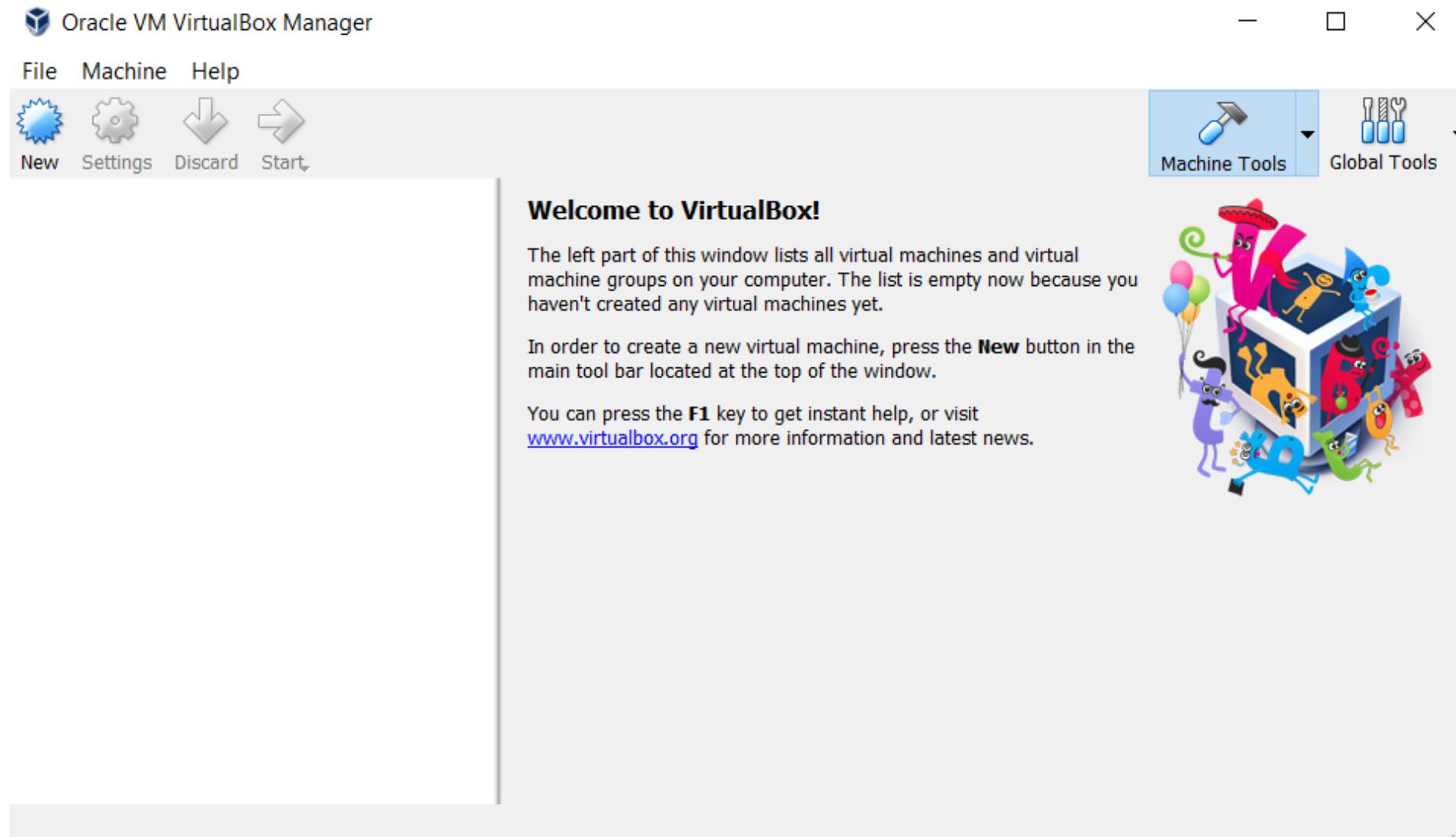
Oracle VirtualBox

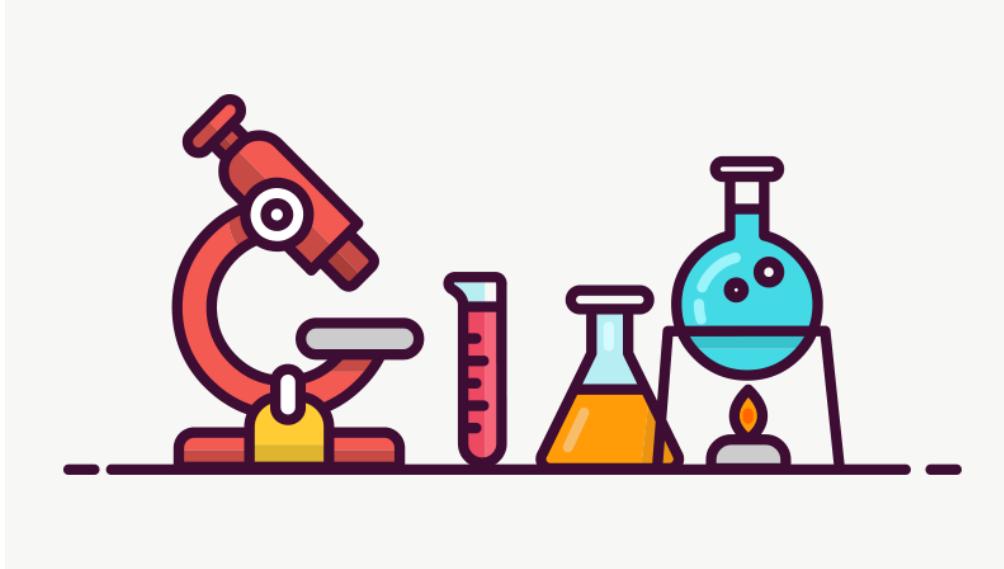
- Is a powerful x86 and AMD64/Intel64 virtualization product.
- Is freely available as Open Source Software under the terms of the GNU General Public License (GPL) version 2.
- Runs on Windows, Linux, Macintosh, and Solaris hosts and supports a large number of guest operating systems including but not limited to Windows (NT 4.0, 2000, XP, Server 2003, Vista, Windows 7, Windows 8, Windows 10), DOS/Windows 3.x, Linux (2.4, 2.6, 3.x and 4.x), Solaris and OpenSolaris, OS/2, and OpenBSD.



Lab. Oracle VirtualBox Installation & Configuration

Oracle VirtualBox (Cont.)





Lab. Ubuntu 18.04 LTS

Installation & Configuration

Python 3.x.x

■ Installation

- Refer to

- <https://github.com/swacademy/Python/blob/master/2.%20Configure%20for%20Lab.pdf>
- <https://realpython.com/installing-python/>

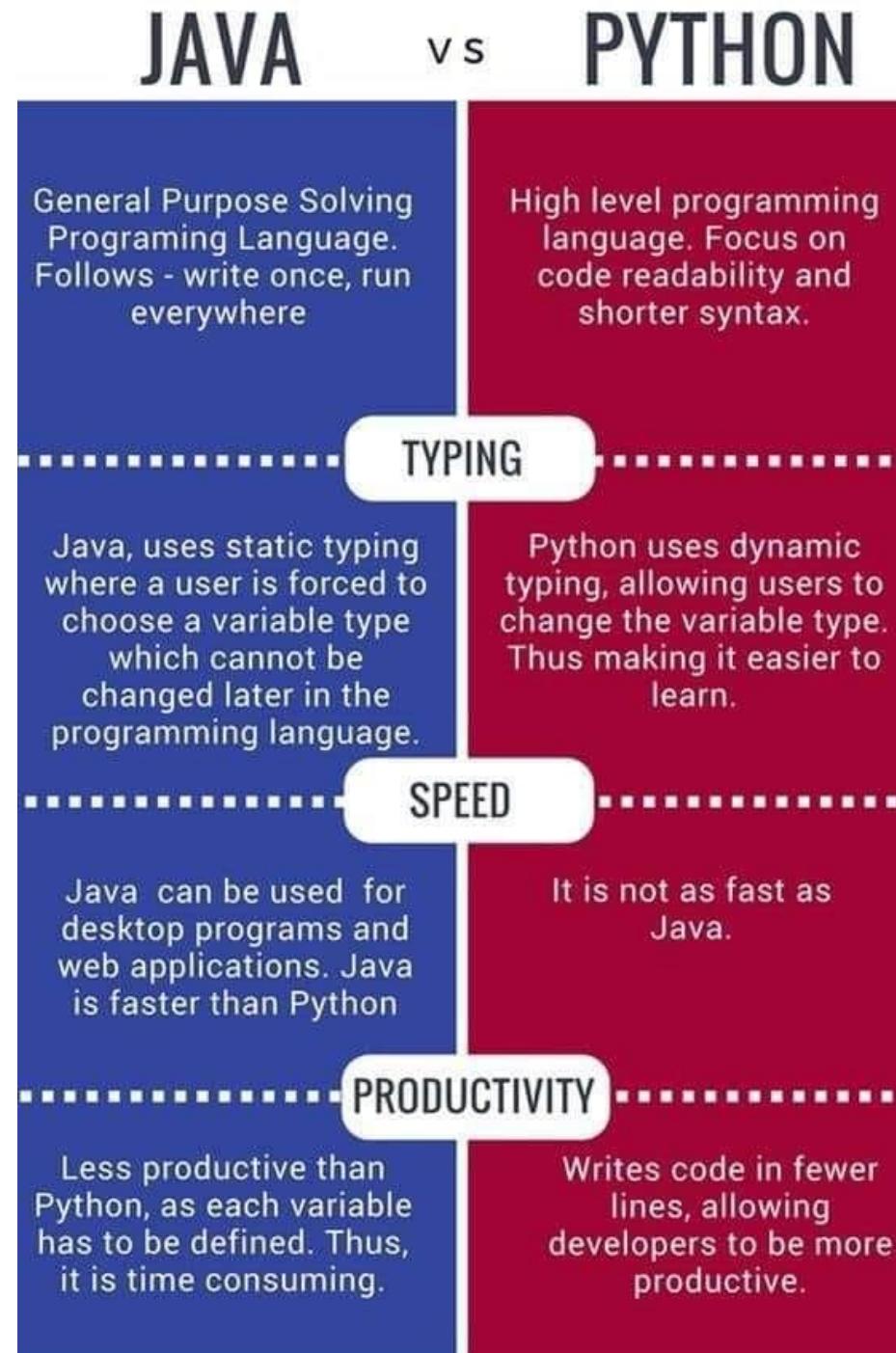
■ Configuration

- OS PATH
- Windows : ~\Scripts
- Linux : ~/bin



```
C:\WINDOWS\system32\cmd.exe
C:\Users\swInstructor>python --version
Python 3.7.4
```

Java vs Python



Microsoft Visual Studio Code



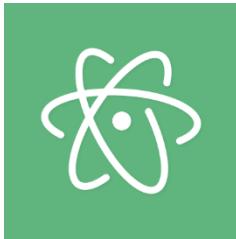
Visual Studio Code

- Is a lightweight but powerful source code editor.
- Runs on your desktop.
- Is available for Windows, macOS and Linux.
- Comes with built-in support for JavaScript, TypeScript and Node.js
- Has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).

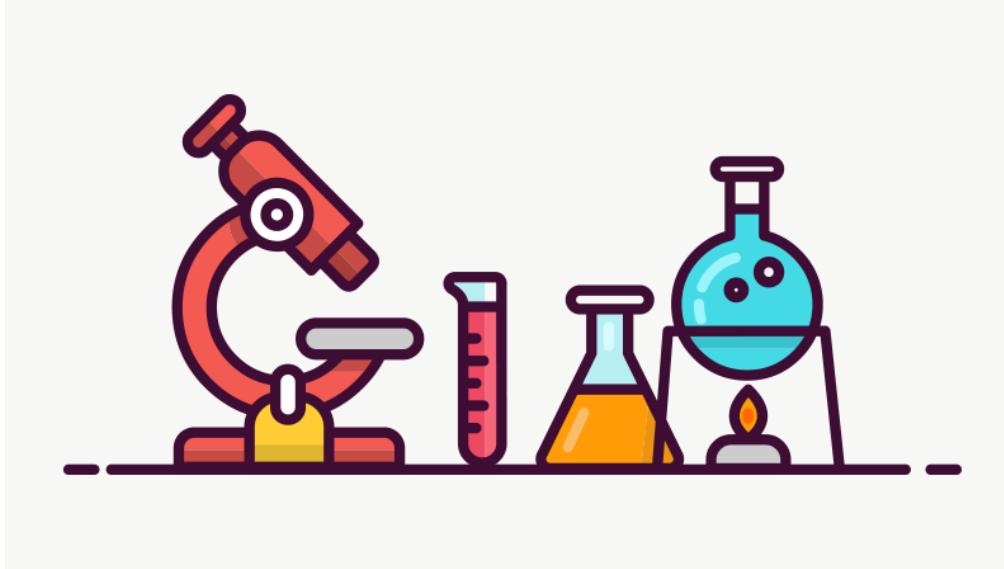


Lab. Visual Studio Code Installation and Configuration for Python

Atom



- Is a hackable text editor.
- Built on Electron, and based on everything we love about our favorite editors.
- Designed to be deeply customizable, but still approachable using the default configuration.

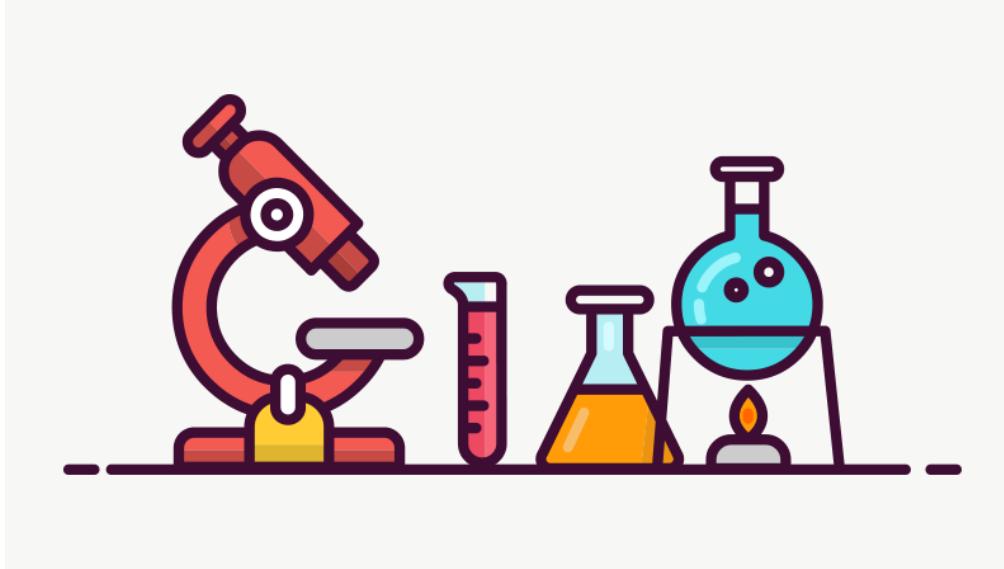


Lab. Atom 설치 및 환경설정

Google Colab



- Google Colaboratory
- Google Drive + Jupyter Notebook
- <https://colab.research.google.com/>
- Computer 사양(2019년 8월 기준)
 - Ubuntu 18.04.2 LTS
 - Intel Xeon CPU 2.20GHz
 - 메모리 13GB
 - GPU(Tesla T4)
 - TPU도 사용 가능
 - Python 3.6.8



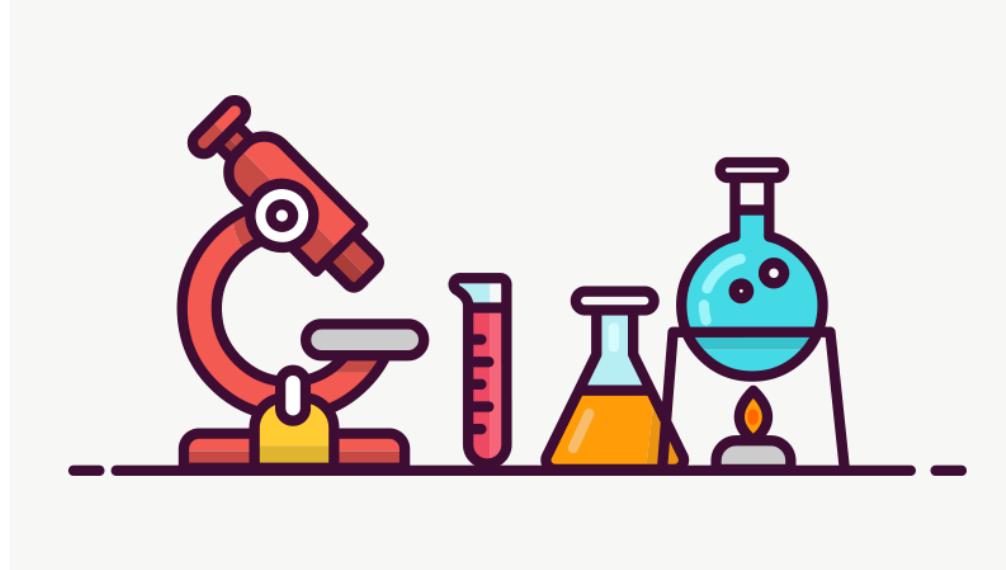
Lab. Google Colab 사용하기

Jupyter Notebook

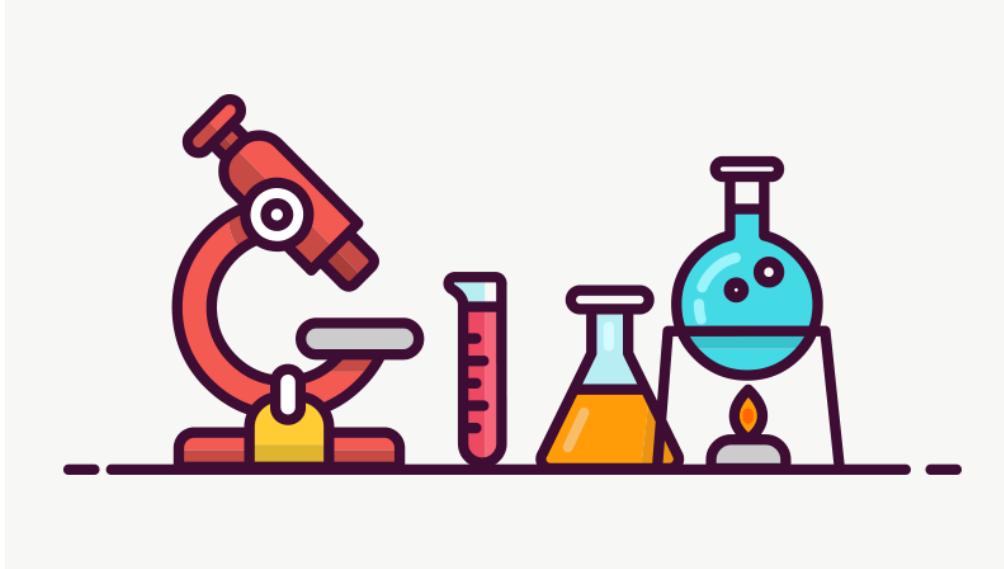
- Web Browser
 - Either Mozilla Firefox or Google Chrome will work well.
 - Try to avoid MS Explorer.
- Prerequisite : Python 3.3 or higher
- Highly recommend installing [Anaconda Distribution](#)
- Alternative for experienced Python users : Installing Jupyter with pip
 - `$ pip3 install --upgrade pip`
 - `$ pip3 install jupyter`



Lab. Python virtualenv에서 Jupyter Notebook 설치하기



Lab. Anaconda를 이용한 Jupyter Notebook 설치하기



Lab. Jupyter Notebook 사용하기

Microsoft Excel 2013 +

- 데이터 분석 소프트웨어에서 R과 Python 다음으로 많이 사용되는 프로그램.
- 상용.
- Table 중심의 Spreadsheet Program.
- Power Query, Power Pivot Add-in
- 대용량 Data 처리는 가능하나, 속도나 효율성 면에서 R이나 Python보다 취약함.
- 시각화는 Power BI로 진화됨.