

# Lab Session 0

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본 캠프는 한동대학교 공학교육혁신센터의  
SW 단기교육과정 개발사업비로 개최되었습니다.

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# Install Anaconda

1) Go to <https://www.anaconda.com/products/individual>

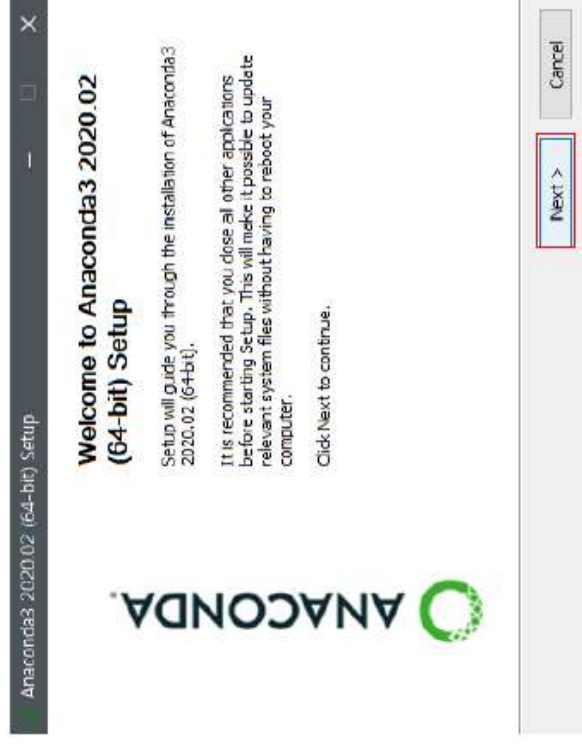
2) Choose your OS

3) Click to save the installer

Anaconda Installers			
Windows	MacOS	Linux	
Python 3.7 64-Bit Graphical Installer (466 MB)	Python 3.7 64-Bit Graphical Installer (442 MB)	Python 3.7 64-Bit (x86) Installer (522 MB)	
32-Bit Graphical Installer (423 MB)	64-Bit Command Line Installer (430 MB)	64-Bit (Power8 and Power9) Installer (276 MB)	
Python 2.7 64-Bit Graphical Installer (413 MB)	Python 2.7 64-Bit Graphical Installer (637 MB)	Python 2.7 64-Bit (x86) Installer (477 MB)	
32-Bit Graphical Installer (356 MB)	64-Bit Command Line Installer (409 MB)	64-Bit (Power8 and Power9) Installer (295 MB)	

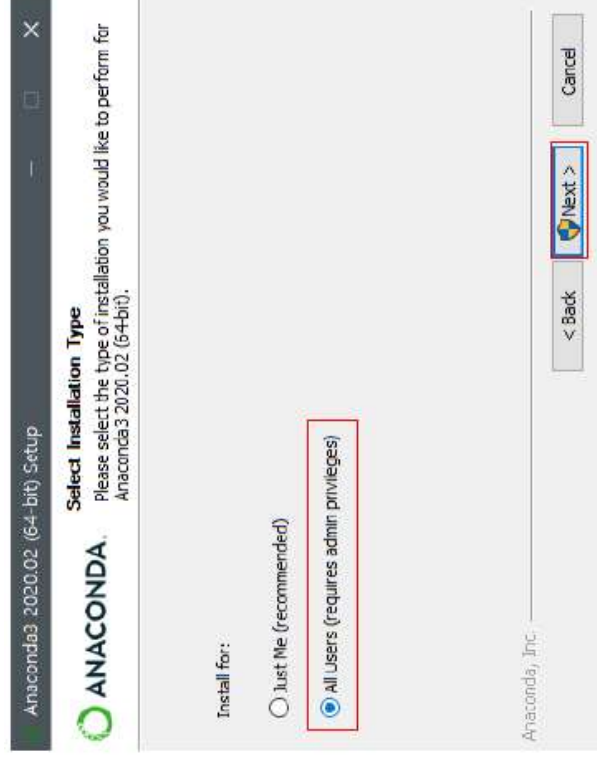
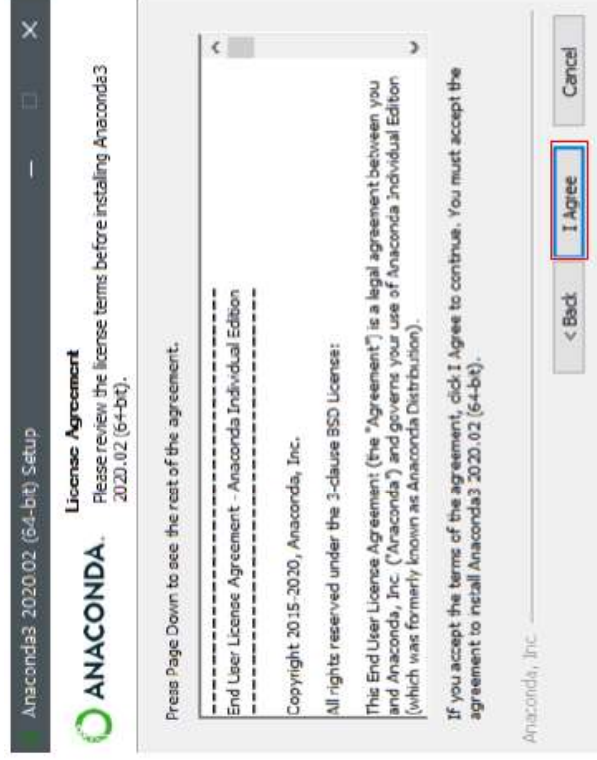
# Install Anaconda

## 4) Follow the steps below



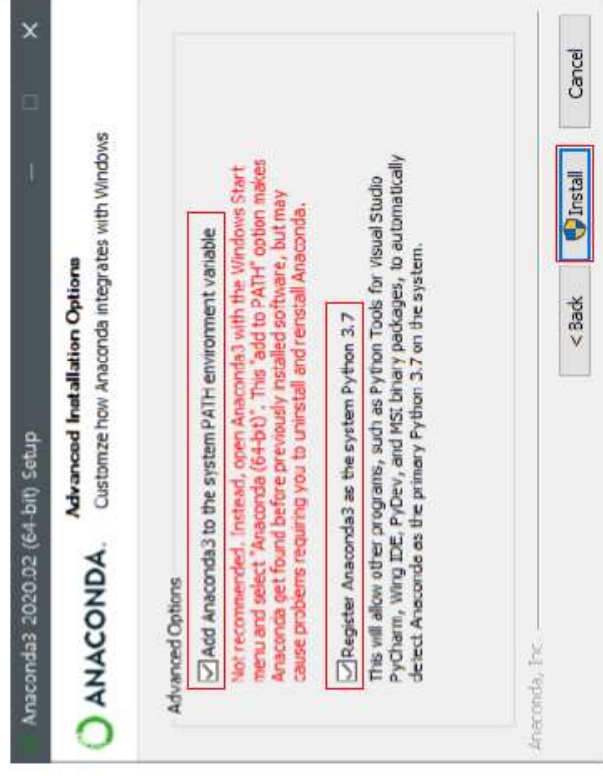
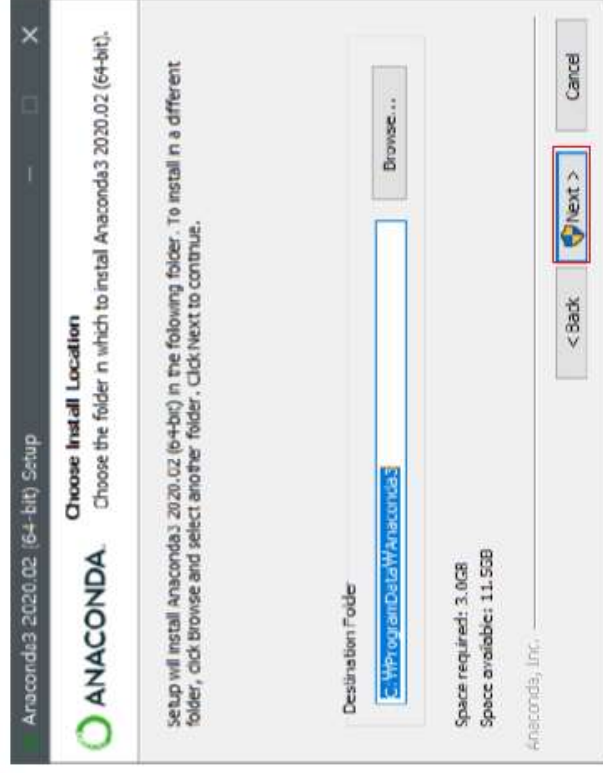
# Install Anaconda

## 4) Follow the steps below



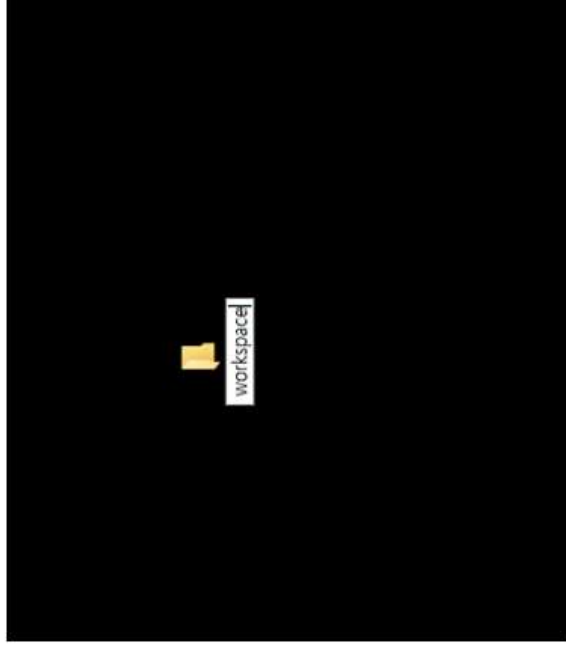
# Install Anaconda

## 4) Follow the steps below



## Setup development environment

**5) Create an empty folder wherever you want**



## Setup development environment

6) Open the folder and click the address bar

7) Copy the path





## Setup development environment

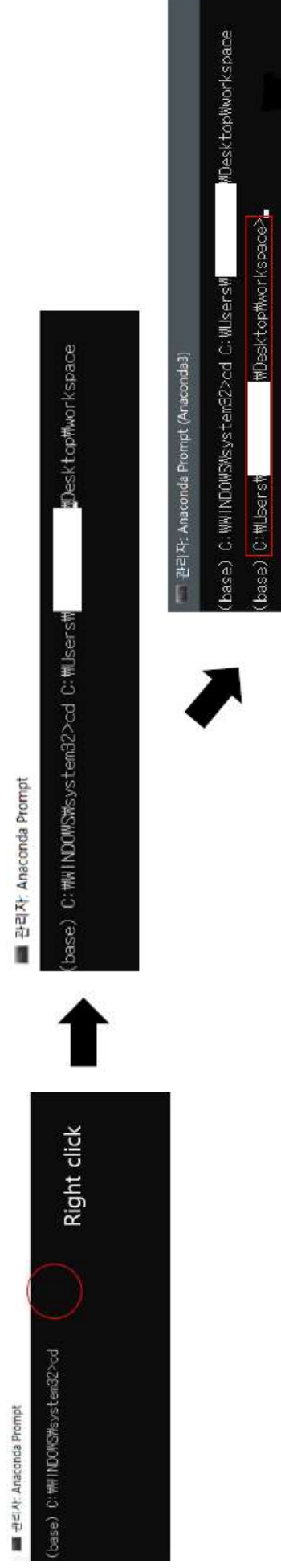
8) Find and open 'Anaconda Prompt' with Run as administrator (관리자 권한으로 실행) by clicking right mouse button on the icon



## Setup development environment

### 9) Change the current path to your working directory

- Type 'cd' (i.e. change directory) command and make one space
- Click right button; path you copied will automatically be pasted on the command line
- Hit enter, then you can find the path is changed



## Setup development environment

### 10) Type the command below

- Create your own working environment
- `conda create --name environment_name_you_want python=3.6`
- Activate your environment using `activate environment_name_you_want` command

```
(base) C:\Wblah~~> conda create --name <env_name> python=3.6
```

```
Ex] conda create --name machoman python=3.6
```

FYI: python 3.6 is preferred for using stable packages  
(But, you can also install another version!)

```
(base) C:\Wblah~~> activate <env_name>
```

```
Ex] activate machoman
```

**Remember) this is the command for 'activating your environment'!**

## Setup development environment

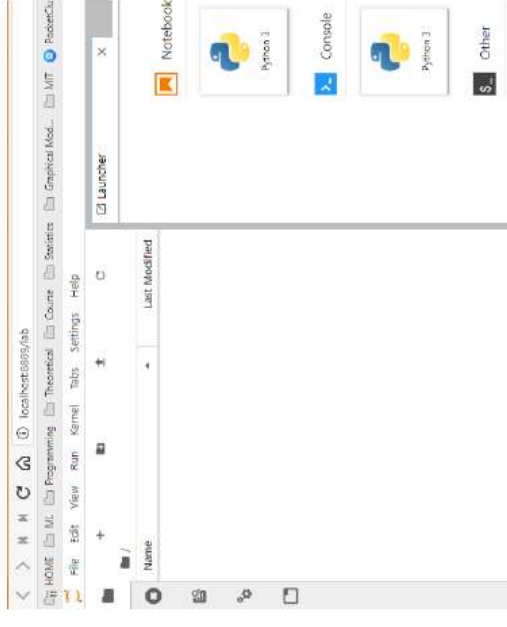
### 11) After activating environment, install packages using following command

- `pip install numpy pandas jupyterlab cvxpy==1.0.25`
- These are the main packages that you will use for the lab session

## Let's start!

### 12) Close all the windows and remember following steps:

- Run 'Anaconda prompt' with 'Run as administrators'
- Change the directory to your working space using `cd` command
- Activate working environment using `activate environment_name` command
- Type `jupyter lab` command to run a development environment



## Use jupyter lab

### 13) Run jupyter lab

- Make a new python notebook
- In the new notebook, type following command and hit 'Shift+Enter' to run your command

```
[1]: import numpy as np  
import pandas as pd  
import cvxpy as cp
```

```
[ ]:
```

## (Optional)

### Install CPLEX

- CPLEX is a strong optimization solver made by IBM
- It makes the optimization more accurate and faster
- You can install it by typing following commands at 'Anaconda Prompt'  
`pip install cplex` or `conda install -c ibmdecisionoptimization cplex`
- Check if you have correctly installed it at jupyter lab

```
[1]: import cplex
```

```
[2]: cplex.__version__
```

```
[2]: '12.10.0.0'
```

```
[ ]:
```

## Things to do

### Execute following commands

- Command 1  

```
import cvxpy as cp  
print(cp.__version__)
```
- Command 2  

```
! conda env list
```
- Command 3  

```
print ("Hello, World!")
```





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