Pandas for Business

Introductory Training Session

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Technical Pre-requisites

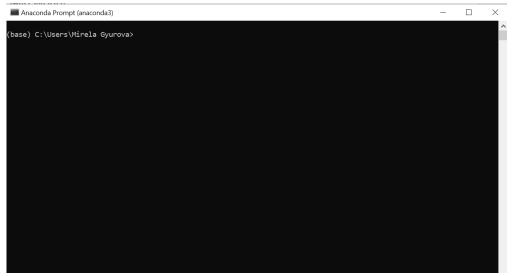
- 1. Laptop and Charger
- 2. Python Installation version 3.9 or 3.10
- 3. Pandas Installation
- 4. Access to Jupyter Notebook
- 5. Beginner knowledge of how to navigate a Jupyter Notebook

NB: This document contains detailed guidance on performing the above steps before the Training Session - please follow these if you have no prior experience with Python.

Python Installation - Instructions

1. Python for Windows

- Install Python version 3.9 via Anaconda Distributor
- Follow this link Anaconda | The World's Most Popular Data Science Platform
- · Running the installer should be straightforward
- · We recommend installing under your username, rather than as administrator
- When offered the choice of adding Python folder to the system PATH, select Yes
- At the end of the installation, try launching the Anaconda Prompt from the search bar it will look like this:



- · Your installation should include access to Anaconda Prompt, Jupyter Notebooks and Spyder applications
- To check that your installation was successful, launch an Anaconda Prompt (a black window) and type python -help, then hit Enter

```
(base) C:\Users\Mirela Gyurova>python -help
usage: python [option] ... [-c cmd | -m mod | file | -] [arg] ...
Options and arguments (and corresponding environment variables):
-b : issue warnings about str(bytes_instance), str(bytearray_instance)
    and comparing bytes/bytearray with str. (-bb: issue errors)

-B : don't write .pyc files on import; also PYTHONDONTWRITEBYTECODE=x
-c cmd : program passed in as string (terminates option list)
-d : turn on parser debugging output (for experts only, only works on
    debug builds); also PYTHONDEBUG=x
-E : ignore PYTHON* environment variables (such as PYTHONPATH)
-h : print this help message and exit (also --help)
-i : inspect interactively after running script; forces a prompt even
    if stdin does not appear to be a terminal; also PYTHONISPECT=x
-I : isolate Python from the user's environment (implies -E and -s)
-m mod : run library module as a script (terminates option list)
-0 : remove assert and _debug_-dependent statements; add .opt-1 before
    .pyc extension; also PYTHONDETIMIZE=x
-OO : do -O changes and also discard docstrings; add .opt-2 before
    .pyc extension
-q : don't print version and copyright messages on interactive startup
-s : don't add user site directory to sys.path; also PYTHONNOUSERSITE
-s : don't imply 'import site' on initialization
-u : force the stdout and stderr streams to be unbuffered;
    this option has no effect on stdin; also PYTHONNURBUFERED=x
-v : verbose (trace import statements); also PYTHONNURBUFERED=x
-v : print the Python version number and exit (also --version)

    when diver thise point more information about the build
```

 If you see the official manual page for Python on the prompt (image above), congratulations, you have successfully installed Python!

2. Python for Mac

- Install Python version 3.9 via Anaconda Distributor
- Follow this link <u>Anaconda The World's Most Popular Data Science Platform</u>

- Running the installer should be straightforward do not get overwhelmed by the pop-up windows
- Select **OK** on each step of the installation process see images below:

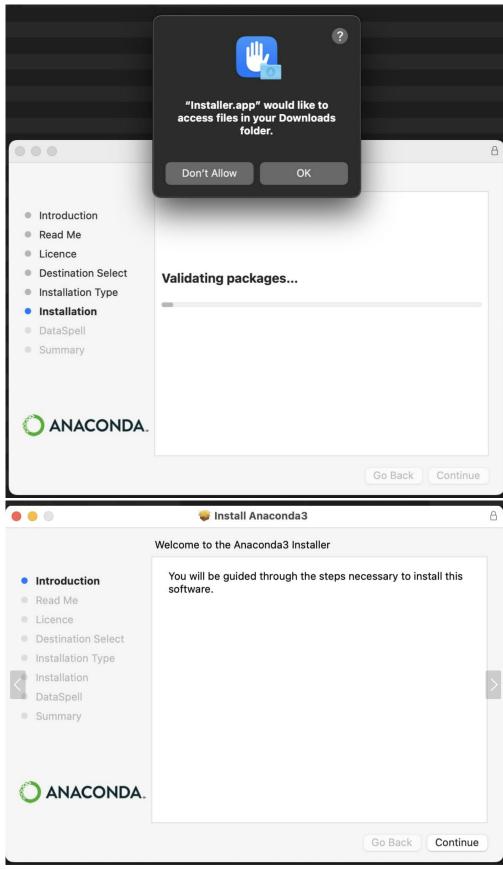
"Installer.app" would like to access files on a removable volume. 000 Don't Allow You will be guided through the steps necessary to install this Introduction software. Read Me Licence Destination Select Installation Type Installation DataSpell Summary ANACONDA. Continue Go Back

? "Installer.app" wants access to control "SystemUlServer.app".
Allowing control will provide access to documents and data in "SystemUlServer.app", and to perform actions within that app. 000 Don't Allow Introduction Read Me Licence Destination Select Running package scripts... Installation Type Installation DataSpell Summary Install time remaining: About 2 minutes ANACONDA. Go Back Continue

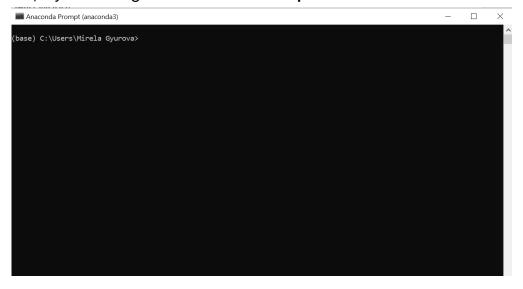
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* Modify and create derivative works of sample source code delivered in Anaconda Distribution from Anaconda's repository, and; ANACONDA. * Redistribute code files in source (if provided to you by Anaconda as source) and binary forms, with or without modification subject to the requirements set forth below, and; Print... Save... Go Back Continue

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• At the end of the installation, try launching the Anaconda Prompt from the search bar - it will look like this:



Pandas Installation

- open an Anaconda Prompt from your search bar on the desktop
- regardless of whether on Windows or Mac, in the prompt type pip install pandas and hit Enter
- close the Anaconda Prompt

Access to Jupyter Notebook - Instructions

- Python can be run in many applications (also known as interpreters)
- The training session will be held in Jupyter Notebook
- Create a folder pandas_for_business locally in the C-drive on your computer
- Click on the search bar of your computer and search for Anaconda Prompt
- In the black window, write cd C:\Users\Mirela Gyurova\...\pandas_for_business, replacing the example folder path with the path of your folder

• if you work on Mac, in the **Anaconda Prompt** run the following code - it will both create and navigate into your pandas_for_business folder:

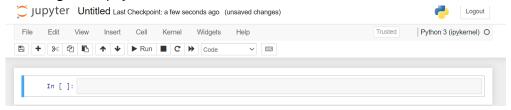
```
cd ~
mkdir pandas_for_business
cd pandas_for_business
```

- the cd command stands for change directory and allows you to navigate inside of your folder via the Anaconda Prompt
- the mkdir command stands for make directory and allows you to create a folder via the Anaconda Prompt
- Next, in the Anaconda Prompt, write jupyter notebook this will spin up a Jupyter notebook in your web browser, where you can read and write python code
- NB: Once you have spun up a Jupyter Notebook on the browser, do NOT close the Anaconda Prompt this will kill your Jupyter Notebook session and you will lose any unsaved changes
- Once Jupyter Notebook is open, it will look like so:



Jupyter Notebooks - First Steps

- from the Jupyter Notebook Home Page (snip above), click on **New** and select *Python3 (ipykernel)* this will create an empty notebook
- Jupyter Notebooks consist of cells of 2 main types Markdown and Code
- The file will initially contain a single empty cell:



- Cells can be in one of 2 modes edit and command edit allows us to write in the cells, command allows us to exit
 the cell and redirect to another one
- cells with a green ribbon are in edit mode, and with blue ribbon in command mode
- Below are some useful shortcuts:
 - double-click on any cell to switch it to edit mode
 - to execute a cell, click on **Ctrl + Enter** this will run the cell and change its mode to command (i.e. it will go from green to blue)
 - to switch from edit to command mode without running the cell, press the Esc button
 - to insert a cell under your current one, ensure you are in command mode, then press B
 - to insert a cell over your current one, ensure you are in command mode, then press A
 - to delete a cell, ensure you are in command mode, then press DD
 - to change the type of a cell, navigate to control pane at the top and in the drop-down, select Markdown or Code
 - New cells will always default to being of type Code