ANACONDA

Anaconda is a popular software distribution for Python and R programming languages, specifically designed for data science, machine learning, and scientific computing. Here's a detailed introduction:

Key Features of Anaconda:

Package Management:

Anaconda uses conda, a powerful package manager that simplifies the installation, updating, and management of packages. You can easily install libraries like Numpy, pandas, and Matplotlib.

Environment Management:

It allows you to create isolated environments, each with its own versions of Python and packages. This helps prevent dependency conflicts between projects.

Jupyter Notebooks:

Anaconda includes Jupyter Notebook, an interactive environment for writing and sharing code, visualizations, and documentation, making it great for data analysis and experimentation.

Pre-installed Libraries:

Many popular libraries come pre-installed with Anaconda, saving you time in setting up your data

Analysis, visualization, and machine learning projects

Cross-Platform Compatibility:

Anaconda works on Windows, macOS, and Linux, making it accessible to a diverse range of users.

Anaconda Navigator:

This is a graphical user interface (GUI) that allows you to manage conda environments and packages without using the command line.

Use Cases:

Data Science: For data analysis, statistical modeling, and visualization.

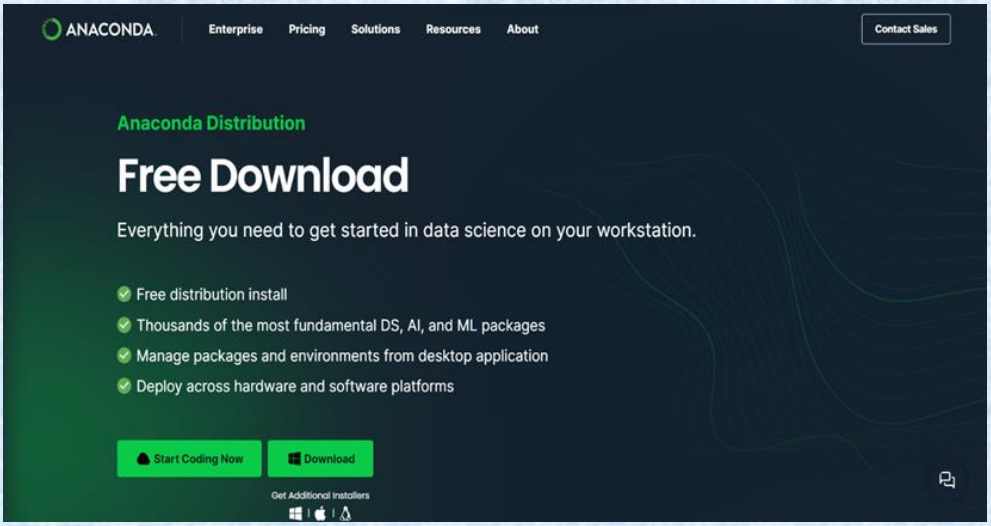
Machine Learning: To utilize libraries like TensorFlow and scikit-learn.

Research: Ideal for scientific computing and research projects that require various libraries

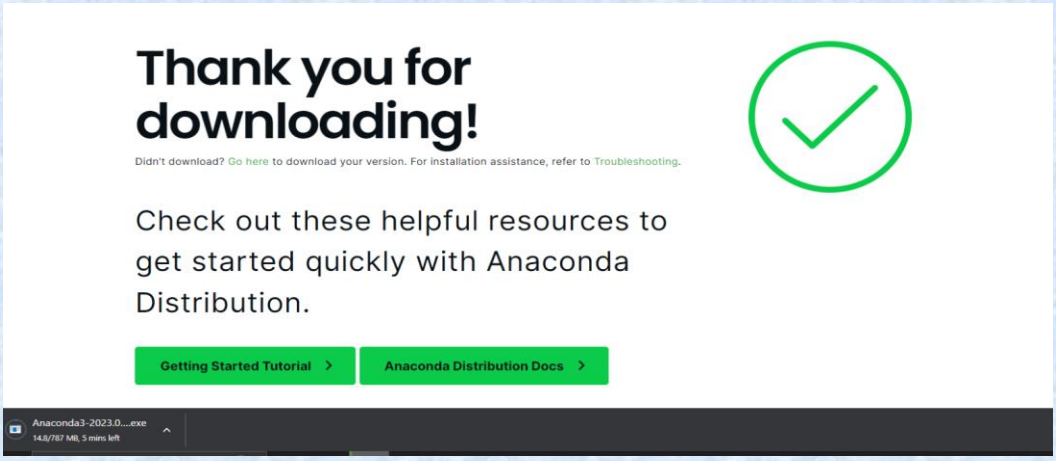
Installation and setup of Anaconda and Jupyter Notebook

Step 1: Go to the link below:

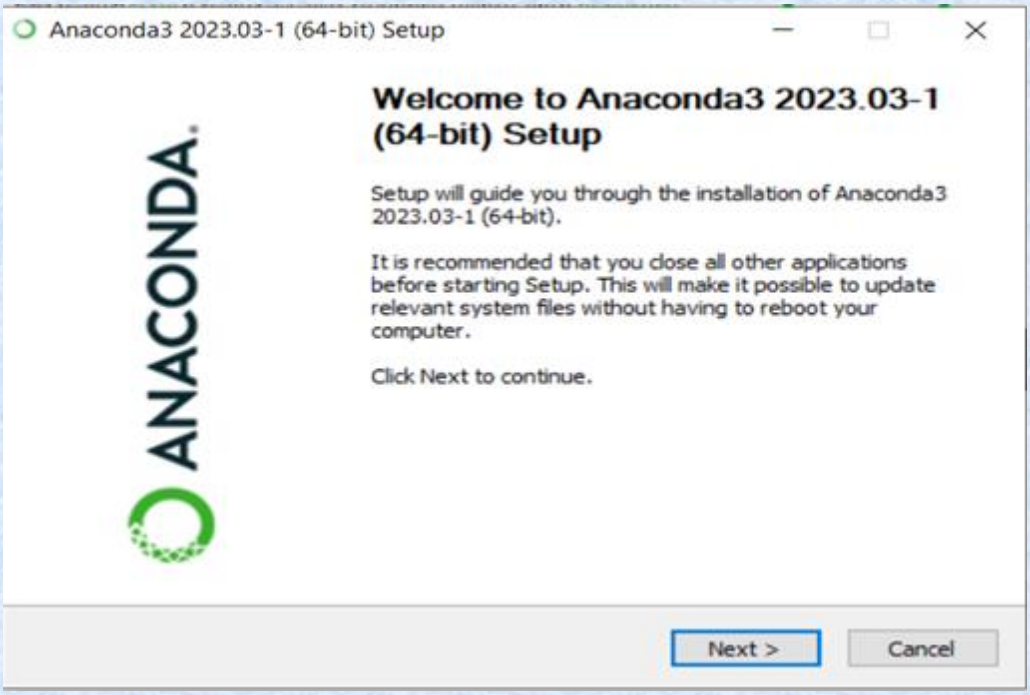
https://www.anaconda.com/download/



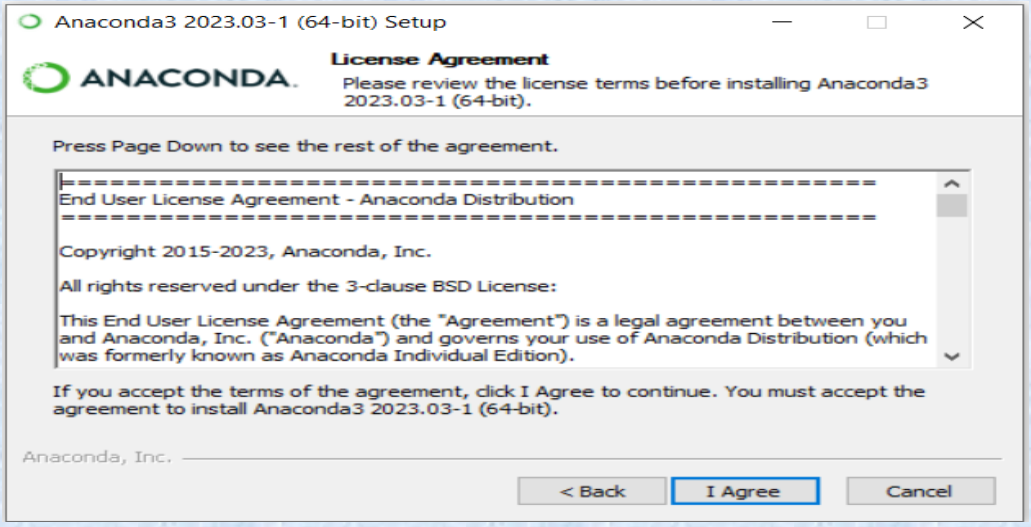
Step 2: Click Download and wait for downloading to be completed.



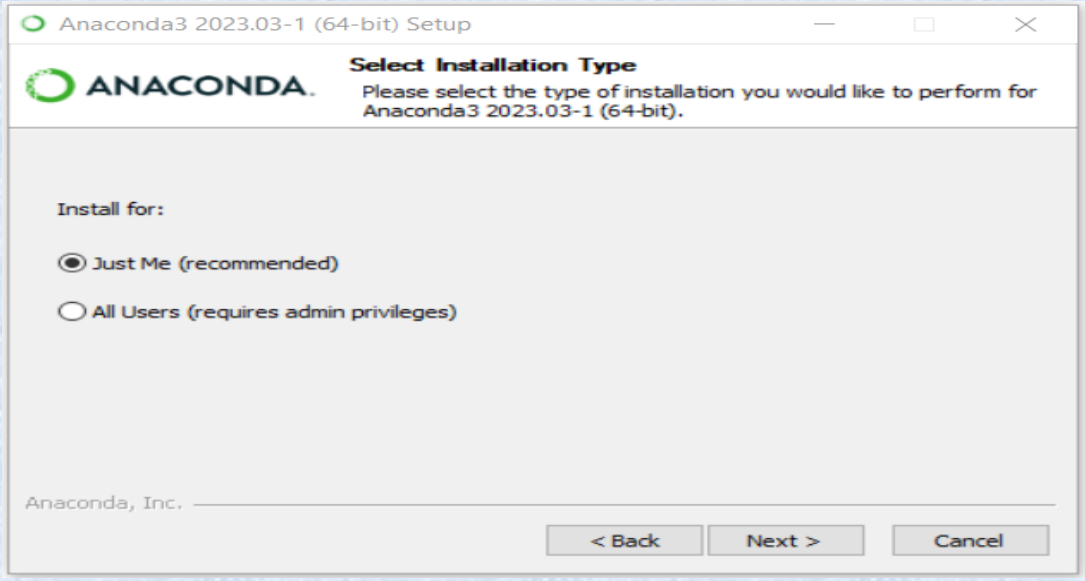
Step 3: Click on exe and wait until a pop-up shows.



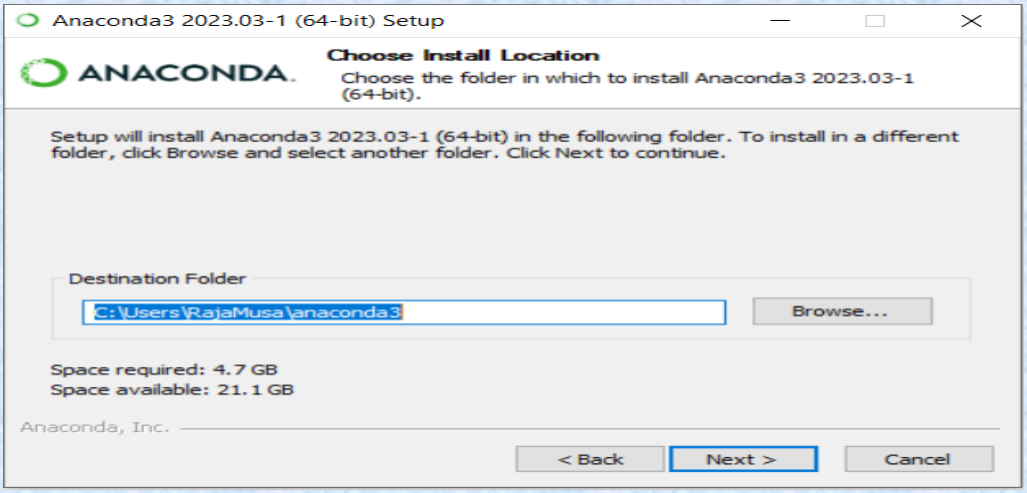
Step 4: Click Next, then select I Agree.



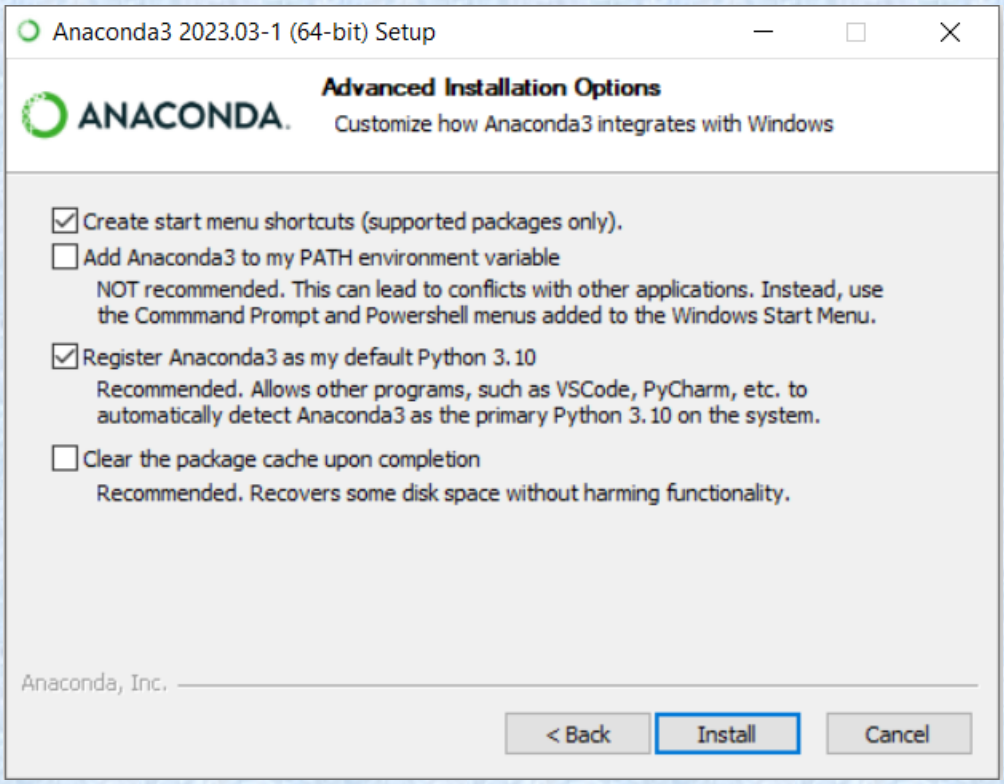
Step 5: Select Just Me option and then Click Next.



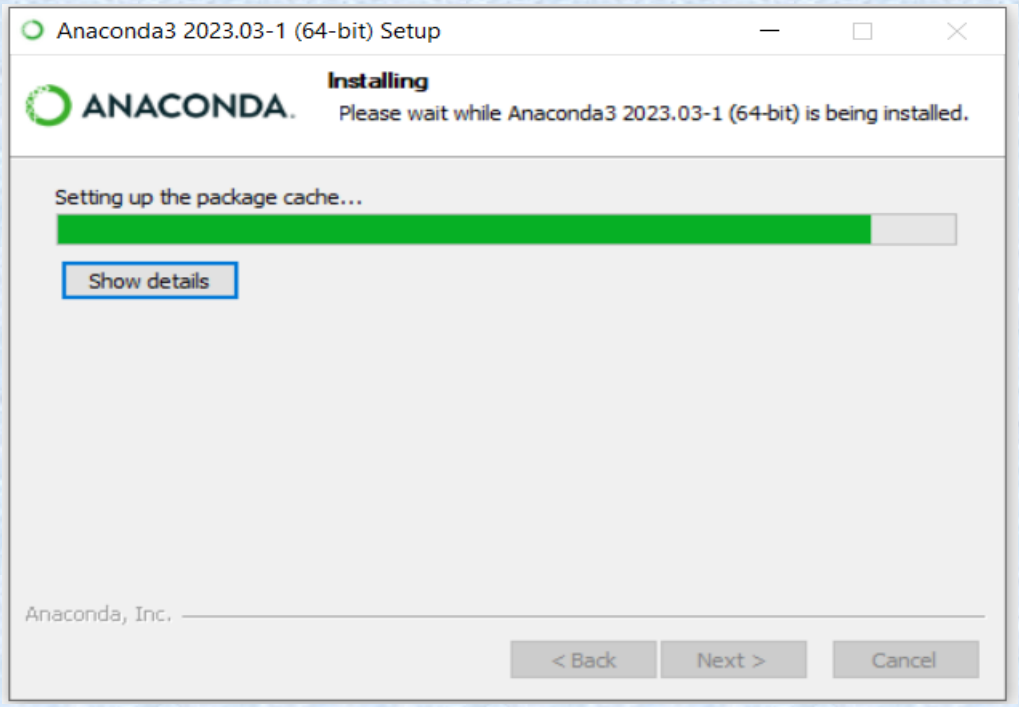
Step 6: Select Installing Directory. Make sure C drive has extra space for future installations. If C drive has low space browse and select another directory. Click Next.



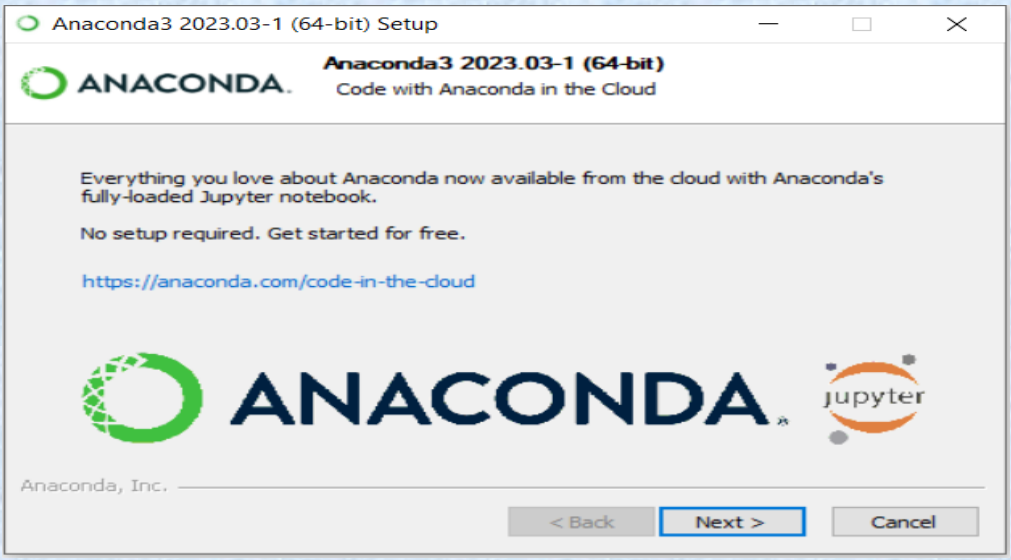
Step 7: Do not change anything. just select Install.



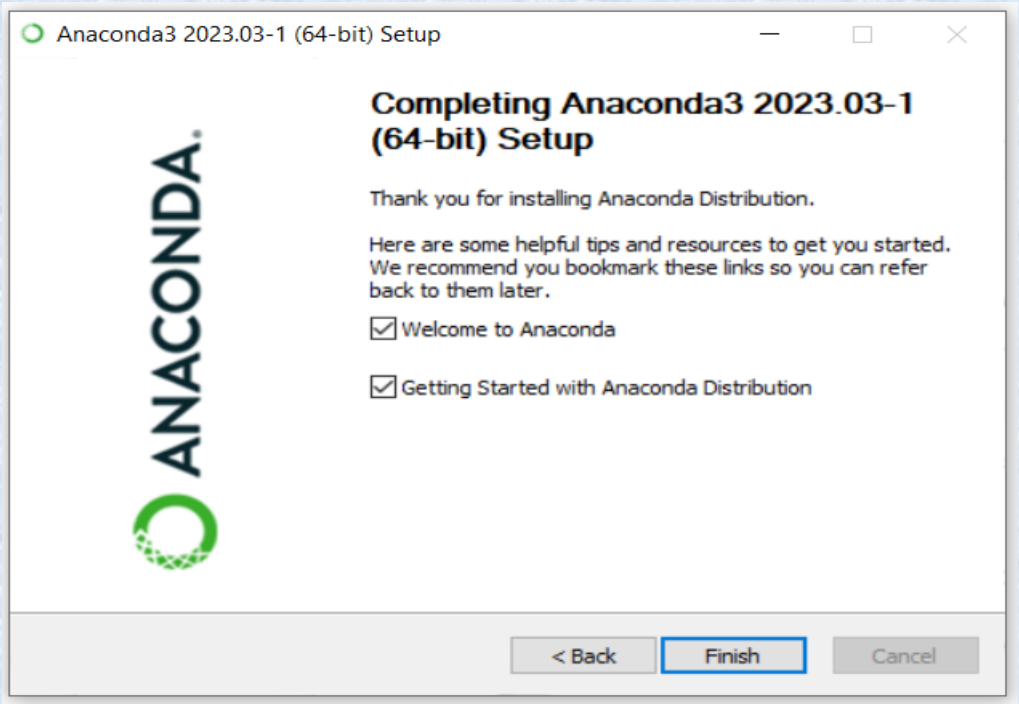
Step 8: Wait for Installation to end. Click Next once completed.



Step 9: Click Next.



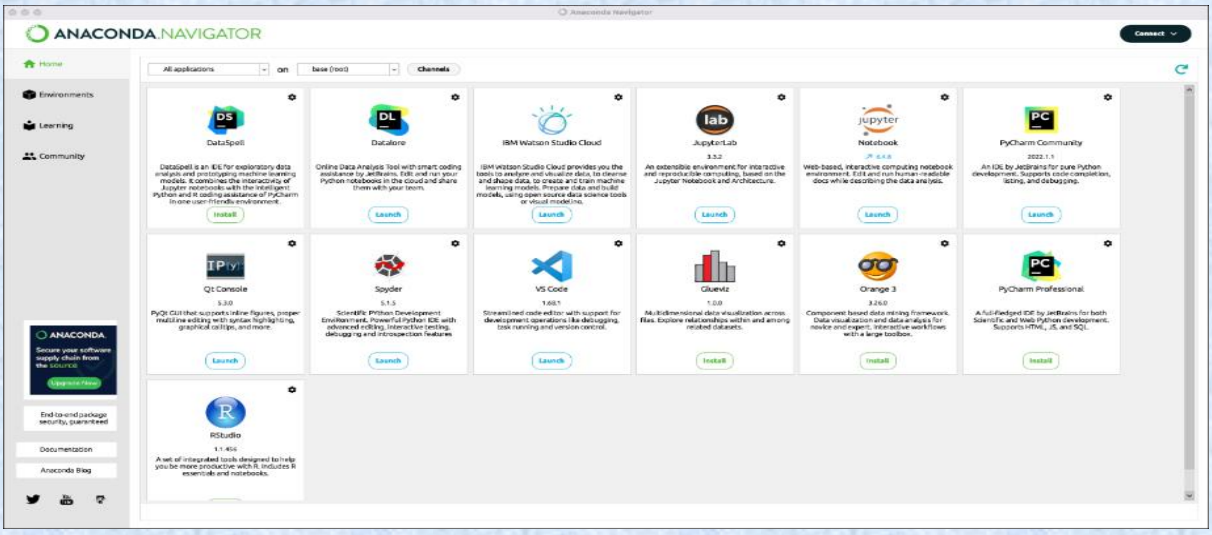
Step 10: Click Finish.



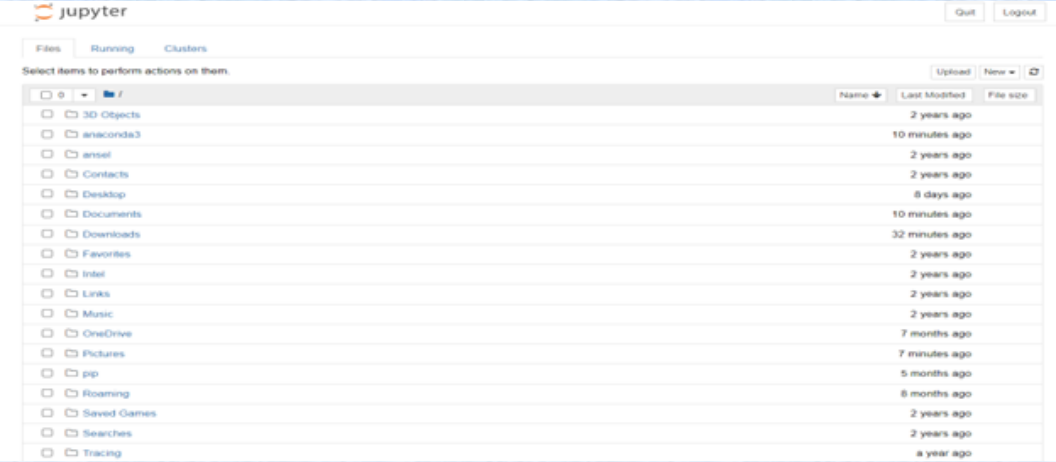
Step 11: Check the location of anaconda in C drive where it is installed.

C:\Users\RajaMusa\anaconda3

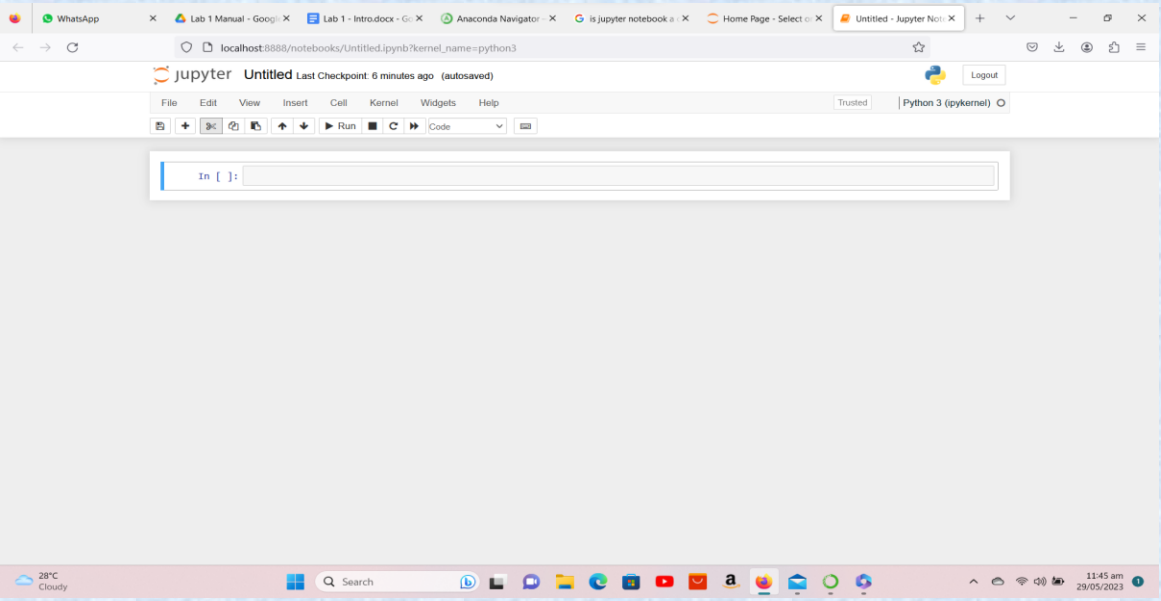
Step 12: Once installation is completed, go to the windows search bar and look for Anaconda Navigator App. Run the app. Wait for this screen to show up.



Step 13: On the screen shown above, launch Jupyter Notebook and wait for a tab in your browser to open.



Step 14: Your Jupiter notebook will look like this.



Lab Tasks:

1. Write a program in jupyter notebook, that prints on screen the message Hello, World.

2. Using the program in (1), what happens if we remove the closing quotation around the text Hello, World?

3. Using the program in (1), what happens if we remove both the quotations around the text Hello, World? How is it different from the behavior in (2)

4. Write a program using the print() command that produces the following output:

```
   *
  **
***
  ****
  *****
```