Assignment: 03

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1. What is Anaconda and how do we use its platform?

Anaconda is an open-source distribution of the Python and R programming languages that is quite popular and is used for scientific computing (data science, machine learning applications, large-scale data processing, predictive analytics, etc.) Also known as **Anaconda Distribution** or **Anaconda Individual Edition**, it aims to simplify package management and deployment of the secure python project faster.

We can use its platform by installing it. It is mainly used to create isolated environments for different data science projects that create separate spaces for projects and avoid conflicts between packages. It ensures that all necessary dependencies and packages are compatible and readily and easily available. There comes a lot of pre-installed packages with Anaconda along with its own dependencies. This setup allows for smooth collaboration and reproducibility of results across teams and projects.

Anaconda comes with its own package manager, Conda, which makes it a valuable tool for developers and researchers in these fields. Conda is essential for managing these environments. It enables users to install packages from the Anaconda repository as well as from other sources like PyPI (Python Package Index) and CRAN (Comprehensive R Archive Network). Conda manages package versioning and dependency resolution, ensuring that the required packages are installed correctly and without conflicts.

2. How many open source packages are accompanied with Anaconda?

Installation of Anaconda provides Python, R, and more than 250 pre-installed packages, data science tools, and the graphical user interface Anaconda and some commonly used libraries such as Numpy, Pandas, Scrip, and Matplotlib. In addition to that over 7,500 open-source packages can be installed from PyPI as well as the conda package and virtual environment manager.

3. What is the home page for Anaconda?

The home page for Anaconda is the landing page or the first page that directs users while surfing about official anaconda documentation which can be accessed through the url https://www.anaconda.com. This website contains all the information about Anaconda, including its products, services, documentation, and download options.

4. How do we install Anaconda?

To install Anaconda, we just need to

- **Download and install anaconda**: head to the Anaconda Documentation website and follow the instructions to download the install for the operating system(Windows, macOS, or Linux). Once the installer successfully downloads, double-click it to start the installation process. Anaconda Navigator is a desktop application that is included with every installation of Anaconda Distribution.
- **Launch Anaconda Navigator**: It is a graphical user interface that helps to manage the packages, environments and tools. It provides easy access to various applications like Jupyter Notebook, Spyder, and more.
- **Create and Manage Environments**: Add Anaconda to my PATH environment variable by selecting "yes." This will ensure that Anaconda is added to our system's PATH, which is a list of directories that our operating system uses to find the files it needs. Activate the environment with command: *conda activate myenv*
- **Install tools and packages**: While installing the Anaconda, Conda, Anaconda Navigator and hundreds of others packages gets installed or we can install any package we want by using the command: *conda install package-name*

5. After Anaconda is installed, should we install Python separately?

No, after installing Anaconda, we do not need to install Python separately. As Anaconda is the distribution of python and R, this platform is built on top of then and comes with Python and many essential packages for scientific computing, data science, and machine learning pre-installed. We can directly start using Python and these packages immediately after installing Anaconda.

6. What is the size of a full Anaconda installation?

The size of full Anaconda installation is not definite. According to Anaconda documentation, to download and install anaconda, it requires minimum 5 GB disk space. It comes with 250+ packages, Python interpreter, the Anaconda Navigator, and a comprehensive collection of scientific and machine learning packages and tools.