Pip vs Conda

What is Pip?

Pip is a package manager for Python. It allows you to install and manage additional libraries that are not part of the Python standard library. Pip is the default package manager for Python and is included by default with most Python installations.

```
pip install numpy
```

What is Conda?

Conda is a cross-platform package manager that can install packages for multiple languages, including Python. It was developed by Anaconda, Inc., and is included with the Anaconda distribution of Python. Conda can also manage environments, which are isolated spaces where packages can be installed without interfering with each other.

```
conda install numpy
```

Pip vs Conda: Key Differences

1. Package Availability

Pip installs packages from the Python Package Index (PyPI), which hosts a vast array of Python libraries. Almost any Python library can be installed using pip.

On the other hand, conda installs packages from the Anaconda distribution and other channels. While the number of packages available through conda is

smaller than pip, conda can install packages for multiple languages and not just Python.

2. Environment Management

While pip can be used in conjunction with virtualenv to create isolated environments, conda has this feature built-in. Conda environments can have different versions of Python and other languages, making it a powerful tool for managing complex projects.

3. Binary Packages

Conda installs binary packages, which means the packages include compiled code. This can make the installation process faster and more reliable, especially for packages with complex dependencies.

Pip, by contrast, often installs packages from source, which means the code is compiled during the installation process. This can be slower and more prone to errors, especially on Windows.

When to Use Pip or Conda?

So, when should you use pip or conda? Here are some guidelines:

- Use pip if you are working with pure Python projects and need access to the vast array of libraries available on PyPI.
- Use conda if you are working with projects that use multiple languages, need different versions of Python, or require complex binary dependencies.

In many cases, you can use both tools in the same project. For example, you can use conda to manage environments and install binary packages, and pip to install Python libraries that are not available through conda.

How to use Task Scheduler in Windows to operate a job

To view, exit, or run a task on Windows 11, use these steps:

1. Open Start.
2. Search for Task Scheduler, click the top result to open the app.
3. Expand the Task Scheduler Library branch.
4. Select the folder that contains the task.
5. To run a task on demand, right-click it and select the Run option.

What is robotic process automation (RPA)?

Robotic process automation (RPA), also known as software robotics, uses automation technologies to mimic back-office tasks of human workers, such as extracting data, filling in forms, moving files, et cetera. It combines APIs and user interface (UI) interactions to integrate and perform repetitive tasks between enterprise and productivity applications. By deploying scripts which emulate human processes, RPA tools complete autonomous execution of various activities and transactions across unrelated software systems.

This form of automation uses rule-based software to perform business process activities at a high-volume, freeing up human resources to prioritize more complex tasks. RPA enables CIOs and other decision makers to accelerate their digital transformation efforts and generate a higher return on investment (ROI) from their staff.

In order for RPA tools in the marketplace to remain competitive, they will need to move beyond task automation and expand their offerings to include

intelligent automation (IA). This type of automation expands on RPA functionality by incorporating sub-disciplines of artificial intelligence, like machine learning, natural language processing, and computer vision.

Intelligent process automation demands more than the simple rule-based systems of RPA. You can think of RPA as “doing” tasks, while AI and ML encompass more of the “thinking” and "learning," respectively. It trains algorithms using data so that the software can perform tasks in a quicker, more efficient way.