**Answers 4.1**

**2.**

There are a lot of articles online describing the benefits of knowing Python and benefits of using the language in the field of data analysis. The most mentioned attributes of the language are:

* Simple, easy to learn, and more readable than other programming languages.
* It is well supported with a large Python community.
* It is open source, which makes it cheaper than paid statistical programs.
* It is flexible; with a large collection of libraries, it can handle any type of challenge the coder is facing.

All these important benefits of Python make it one of the must-know languages for a professional data analyst.

**3.**

1. Amazon-the global eCommerce platform utilizes Python in the recommendation system, employing AI and ML to analyze customer buying habits and suggest relevant products.
2. Facebook-Python language is the core of Facebook: it makes up 21% of the whole codebase. It is a key component in Facebook’s backend system, ensuring that the platform is up and running.
3. Spotify-the world’s largest music streaming service with more than 280 million monthly users. This is the company using Python for data analysis and backend services.
4. Google-Google, the world’s leading search engine, is a well-known Python software company.

Python has been a major language at Google since the company’s inception and remains a vital technology alongside C++ and Java.

1. Netflix-the leading video streaming service with over 230 million subscribers globally.

To improve user experience and retention, Netflix uses Python to analyze user viewing history and provide personalized suggestions. Netflix engineers also use it to forecast audience size, viewership, and other metrics for platform development.

**4.**

**You have a small data set that needs some quick tweaks and minor analysis. You’ll need to filter some columns and make a quick chart.**

For this scenario I would use excel to achieve results. Since the data set is small and only minor analysis is needed with the ability to make a quick chart, I think excel will be ideal for this task.

**You need to retrieve some portion of data from a very large database.**

For this task a programming language will need to be used. Either SQL or Python can help generate results. Since the dataset is very large and only retrieval of data is needed for the task, SQL might be the best way to go about it.

**You have a data set with 15,000,000 rows and 350 columns that needs to be sorted and prepared for a more advanced analysis.**

For this assignment I think utilizing the functionality of Python programming will be ideal. Being able to manipulate a very large amount of data in a short period of time is one of the key functions offered by Python, which is exactly what is needed for this assignment.

**6-8.**

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