2.1 Python Exercise

Write two to three sentences on why Django is so popular among web developers.

a. Django is popular amongst web developers for a handful of reasons. One of these being its speed. Django is incredibly fast to develop and also processes equally fast. That means that less time is spent on needlessly focusing on details and more on getting your product up and running. It follows the DRY(Don't Repeat Yourself) principles, which help you to ensure you aren't making redundant or repetitive code, which means, again, you're saving time and making your code more efficient and readable. Finally it's scalable. Django works equally well on small and large projects, meaning it's a fit for almost anything that needs a database.

After some research, list five large companies that use Django. Specify what the company's product or service is and what they use Django for.

a. EventBrite - Eventbrite made the change to move to Django because of its feature-rich environment and vibrant community. By their own admission, their immediate benefits involved unit-testing within the framework, the database model abstraction, URL routing and form building, just to name a few.
b. Mozilla - Mozilla utilizes the Django framework because of its innate security features, its fast processing speed, versatility and its focus on clean and efficient code.
c. Spotify - Spotify uses Python and Django specifically because of the speed. It allows them to iterate on new features quickly and cleanly, as well as using it to build learning algorithms, which Python is suited for, so that they can create better recommendations for users, leading to a better user experience.
d. Dropbox - Dropbox uses Django because of it's support of Python 3, but also because of its bevy of features available out of the box, the speed at which they could iterate on new versions, and it's scalability because Dropbox is an enormous site, and it handles massive amount of data, billions of gigabytes worth, and it has to ensure that data is secure and deliverable to its customers.
e. NASA - NASA uses Django for reliability, and to handle its massive collection of interstellar imagery, which get an average of 2 million views per month.

For each of the following scenarios, explain if you would use Django (and why or why not):

- You need to develop a web application with multiple users.
  - If you're developing a web app for multiple users, Django is ideal because it's stable, secure and able to process quickly, so the users can feel at ease about the security of their information but also because they won't have issues accessing the app when many other people are trying to at the same time.

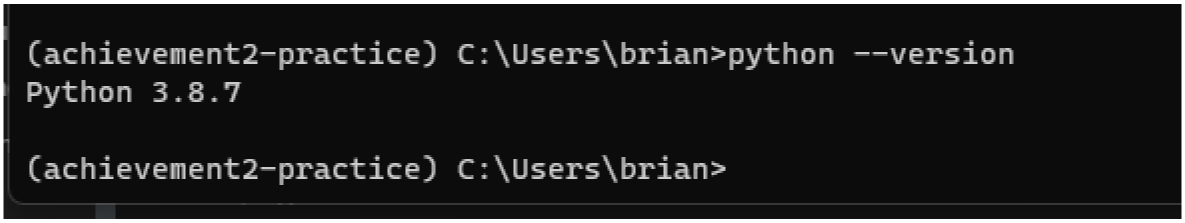
- You need fast deployment and the ability to make changes as you proceed.
  - Django is ideal for fast development projects. It saves you crucial development time by handling a large majority of the minutiae, allowing you to focus on getting the app up and running, rather than perfect.

2.1 Python Exercise

- You need to build a very basic application, which doesn’t require any database access or file operations.
    - You would not need Django for this, or most applications where a database is unnecessary and security isn’t a concern.

- You want to build an application from scratch and want a lot of control over how it works.
    - This would not be a good fit for Django, as it handles much of the minutiae and you would not be able to control every facet of the framework.

- You’re about to start working on a big project and are afraid of getting stuck and needing additional support
    - Django is a great place to get a ton of help and advice because it has a massive community full of passionate developers. They can guide you through the stages of building your project while also offering great advice for your future. In addition, Django’s massive feature suite will make it easy to work through the initial stages by taking a lot of work off the developers plate.



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(achievement2-practice) C:\Users\brian>python --version
Python 3.8.7

(achievement2-practice) C:\Users\brian>
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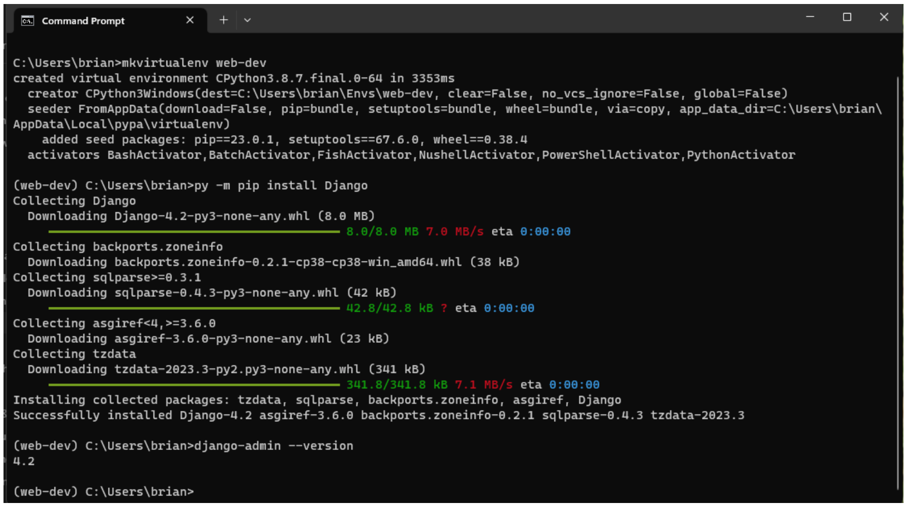

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C:\Users\brian>mkvirtualenv web-dev
created virtual environment CPython3.8.7.final.0-64 in 3353ms
  creator CPython3Windows(dest=C:\Users\brian\Envs\web-dev, clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\brian\
AppData\Local\pypa\virtualenv)
    added seed packages: pip==23.0.1, setuptools==67.6.0, wheel==0.38.4
  activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator

(web-dev) C:\Users\brian>py -m pip install Django
Collecting Django
  Downloading Django-4.2-py3-none-any.whl (8.0 MB)
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Collecting backports.zoneinfo
  Downloading backports.zoneinfo-0.2.1-cp38-cp38-win_amd64.whl (38 kB)
Collecting sqlparse>=0.3.1
  Downloading sqlparse-0.4.3-py3-none-any.whl (42 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 42.8/42.8 kB ? eta 0:00:00
Collecting asgiref<4,>=3.6.0
  Downloading asgiref-3.6.0-py3-none-any.whl (23 kB)
Collecting tzdata
  Downloading tzdata-2023.3-py2.py3-none-any.whl (341 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 341.8/341.8 kB 7.1 MB/s eta 0:00:00
Installing collected packages: tzdata, sqlparse, backports.zoneinfo, asgiref, Django
Successfully installed Django-4.2 asgiref-3.6.0 backports.zoneinfo-0.2.1 sqlparse-0.4.3 tzdata-2023.3

(web-dev) C:\Users\brian>django-admin --version
4.2

(web-dev) C:\Users\brian>
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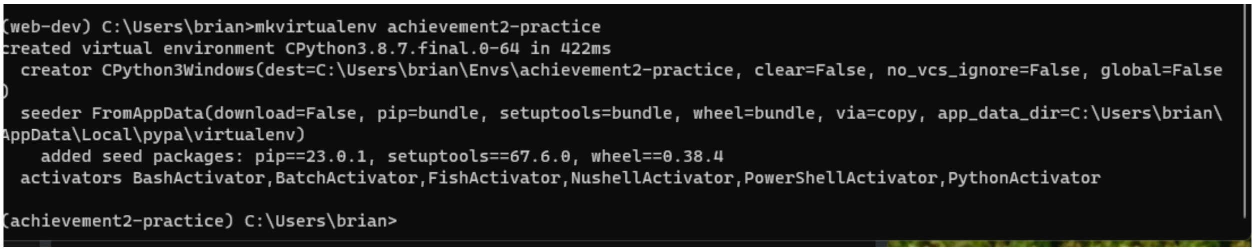

```
(web-dev) C:\Users\brian>mkvirtualenv achievement2-practice
created virtual environment CPython3.8.7.final.0-64 in 422ms
  creator CPython3Windows(dest=C:\Users\brian\Envs\achievement2-practice, clear=False, no_vcs_ignore=False, global=False
)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\brian\
AppData\Local\pypa\virtualenv)
    added seed packages: pip==23.0.1, setuptools==67.6.0, wheel==0.38.4
  activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator

(achievement2-practice) C:\Users\brian>
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