

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

- Django's popularity stems from its rapid development capabilities, extensive built-in features, and adherence to clean, maintainable code principles like DRY and MVC (MTV in Django). Its strong community support and comprehensive documentation further bolster its appeal, ensuring developers have resources and third-party packages readily available. Additionally, Django's scalability, security features, and flexibility for integration with other technologies make it a versatile choice for building web applications of all sizes and complexities.

2. 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.

- **Instagram:** A social media platform for sharing photos and videos. Django is used extensively for backend services, including managing user data, content delivery, and interaction functionalities.

- **Pinterest:** A visual discovery and bookmarking platform. Django is utilized for handling user interactions, content management, and data analytics, supporting millions of users and their interactions with pins and boards.

- **Disqus:** A comment hosting service for websites and online communities. Django powers the backend infrastructure for managing comments, user authentication, and moderation features across millions of websites.

- **Eventbrite:** An online platform for event management and ticketing. Django is used to handle event creation, ticket sales, attendee management, and payment processing, ensuring scalability and reliability for millions of events worldwide.

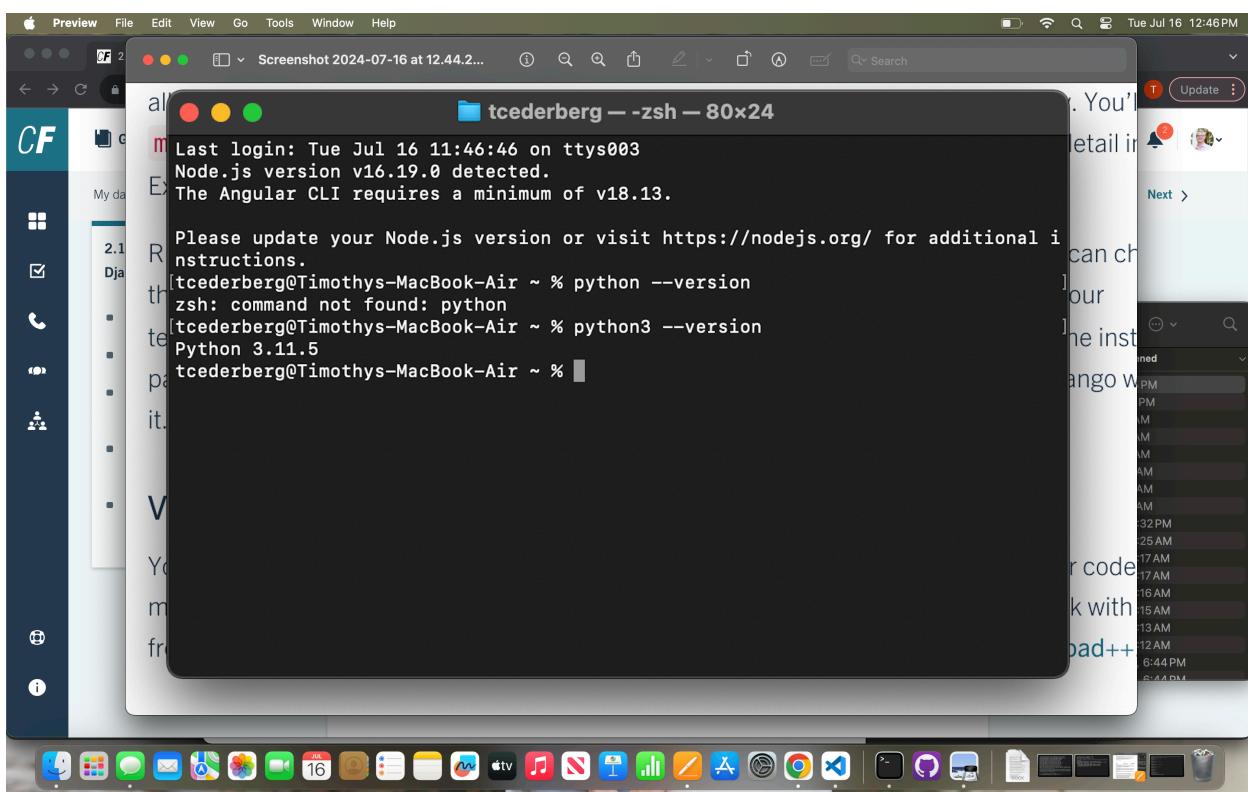
- **Spotify:** A digital music streaming service. Django is employed for backend services related to user authentication, playlist management, recommendations, and content delivery, supporting millions of active users globally.

3. 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.
 - **Use Django:** Django excels in managing multiple users with its built-in authentication and ORM capabilities, making it ideal for web applications requiring user management.
- You need fast deployment and the ability to make changes as you proceed.
 - **Use Django:** Django's comprehensive features and rapid development capabilities support quick deployment and iterative changes, ensuring flexibility throughout the development process.
- You need to build a very basic application, which doesn't require any database access or file operations.
 - **Consider alternatives:** For basic applications without database or file operations, lighter frameworks like Flask or micro-frameworks might be more suitable than Django to avoid unnecessary complexity.
- You want to build an application from scratch and want a lot of control over how it works.

- **Consider alternatives:** Django offers a structured framework that precodes a lot of functionality in the background, however, it must be done in an exact manner. If you seek complete control with every aspect of your application then consider alternatives.
- You're about to start working on a big project and are afraid of getting stuck and needing additional support.
- **Use Django:** With its large community, extensive documentation, and active support forums, Django is well-suited for large projects where ongoing support and resources are crucial for successful development and deployment.

4. Download and install Python



5. Set up and create a virtual environment and name it `achievement2-practice`.

```
Last login: Tue Jul 16 12:43:19 on ttys004
Node.js version v16.19.0 detected.
The Angular CLI requires a minimum of v18.13.

Please update your Node.js version or visit https://nodejs.org/ for additional instructions.

tcederberg@Timothys-MacBook-Air ~ % cd myProjects
tcederberg@Timothys-MacBook-Air myProjects % cd Python_Intro
tcederberg@Timothys-MacBook-Air Python_Intro % cd Achievement_2
tcederberg@Timothys-MacBook-Air Achievement_2 % workon achievement2-practice
ERROR: Environment 'achievement2-practice' does not exist. Create it with 'mkvirtualenv achievement2-practice'.
tcederberg@Timothys-MacBook-Air Achievement_2 % mkvirtualenv achievement2-practice
created virtual environment CPython3.11.5.final.0-64 in 47ms
( creator CPython3Posix(deets:/Users/tcederberg/.virtualenvs/achievement2-practice, clear=False, no_vcs_ignore=False, global=False) )
seeder FromAppData(download=False, pip=package, setupTools=bundle, wheel=wheel, via=copy, app_data_dir=/Users/tcederberg/Library/Application Support/virtualenv)
added seed packages: pip==24.0, setuptools==69.1.0, wheel==0.42.0
activators BashActivator,CShellActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator
virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/predeactivate
virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/postdeactivate
virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/preactivate
virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/postactivate
virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/get_env_details
(achievement2-practice) tcederberg@Timothys-MacBook-Air Achievement_2 % workon achievement2-practice
(achievement2-practice) tcederberg@Timothys-MacBook-Air Achievement_2 %
```

○ Paste it into your answers document.

9. Export your document as a PDF.

6. Install Django and verify the installation by checking the version.

```
[tcederberg@Timothy-MacBook-Air Achievement 2 % mkvirtualenv achievement2-practice
  created virtual environment CPython3.11.5.final.0-64 in 47ms
  creator CPython3Posix(dest=/Users/tcederberg/.virtualenvs/achievement2-practice, clear=False, no_vcs_ignore=False, global=False)
  seed FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=/Users/tcederberg/Library/Application Support/virtualenv)
  added user packages: pip==24.0, setuptools==69.1.0, wheel==0.42.0
    activates BashActivator,CShellActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator
  virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/predeactivate
  virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/postdeactivate
  virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/preactivate
  virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/postactivate
  virtualenvwrapper.user_scripts creating /Users/tcederberg/.virtualenvs/achievement2-practice/bin/get_env_details
  ([achievement2-practice] tcederberg@Timothy-MacBook-Air Achievement 2 % workon achievement2-practice
  Collecting django
    Downloading Django-5.0.7-py3-none-any.whl.metadata (4.1 kB)
  Collecting asgiref<4,>=3.7.0 (from django)
    Downloading asgiref-3.8.1-py3-none-any.whl.metadata (9.3 kB)
  Collecting sqlparse>=0.3.1 (from django)
    Downloading sqlparse-0.5.1-py3-none-any.whl.metadata (3.9 kB)
  Downloading Django-5.0.7-py3-none-any.whl (8.2 MB)
    8.2/8.2 MB 14.1 MB/s eta 0:00:00
  Downloading asgiref-3.8.1-py3-none-any.whl (23 kB)
  Downloading sqlparse-0.5.1-py3-none-any.whl (44 kB)
    44.2/44.2 kB 3.6 MB/s eta 0:00:00
  Installing collected packages: sqlparse, asgiref, django
  Successfully installed asgiref-3.8.1 django-5.0.7 sqlparse-0.5.1
  [notice] A new release of pip is available: 24.0 -> 24.1.2
  [notice] To update, run: pip install --upgrade pip
  ([achievement2-practice] tcederberg@Timothy-MacBook-Air Achievement 2 % )
  > Take a screenshot of the terminal with the command and version.
```

Exercise

Paste it into your answers document.

Export your document as a PDF.