Section 7

Week of March 26

Outline

- A few notes
- Django Basics
- Django & Data
- Django Authentication

A few notes:

- Project 3 due on April 15th
- Last project before the final project

Django Basics

- Flask: A microframework where you need to explicitly add all features
- Django: a more comprehensive framework with built in features
- A Django project consists of applications:

Django Basics: Creating a Project

`django-admin startproject <projectname>`

📂 projectName/

  📄 manage.py   (python scripts to run app)

  📂 projectName/

    📄 __init__.py   (python packages)

    📄 settings.py   (settings: ex: timezone, database)

    📄 urls.py   (routing for entire project)

    📄 wsgi.py   (for web deployment)

Django Basics: Applications

```
django-admin startapp <appname>
```

📂 projectName/
  📄 manage.py
  📂 projectName/   (the high level project controls)

    📄 __init__.py
    📄 settings.py
    📄 urls.py   (URLs will be routed through here first)
    📄 wsgi.py
  📂 appName/   (an individual app within the project)

    📄 __init__.py
    📄 urls.py   (Associating URLs with view functions)
    📄 view.py   (functions that run to create responses)
    📄 models.py   (Models for your database)
    📄 AND OTHERS!

Django Database

- Write models within `models.py`
  - This is similar in style to Flask's ORM
  - Django adds an ID column by default
- You will need to install the models within `settings.py`
- Migrations: a way of detecting and applying changes to a database

```
python manage.py makemigrations
python manage.py migrate
```

Django Database: The Shell

- The database can be accessed and manipulated through the Django Shell

  ```
  python manage.py shell
  ```

- Sample shell commands:
  ```
  > from flights.models import *
  > Flight.objects.all()
  > Flight.objects.filter(duration < 300)
  ```

  Import all models from flights example (Airline, Passenger, Flight)

Django Authentication

- A built in app to handle the login, logout, and authentication of users

```
from django.contrib.auth import authenticate,
login, logout
```

Any remaining questions?