Final Project

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Invalid Date

Due 11/9 at 5:00PM Central. Worth 100 points + 10 points extra credit.

Submission Steps (10 pts)

1. This problem set is a paired problem set.
2. Play paper, scissors, rock to determine who goes first. Call that person *Partner 1*.

   - Partner 1 : Dylan Xia; dizhexia
   - Partner 2 : Kevin Yao; qiyin
   - Partner 3 : Yuqing Wen, wyuqing

Step 1: Plot data based on Unemployment Rate

```python
import pandas as pd
import altair as alt
import time

import warnings
warnings.filterwarnings('ignore')
alt.renderers.enable("png")
```

```
RendererRegistry.enable('png')
```

Step 1: Develop initial scraper and crawler

1. Scraping (PARTNER 1)

2. Crawling (PARTNER 1)

Step 2: Making the scraper dynamic

1. Turning the scraper into a function

- a. Pseudo-Code (PARTNER 2)
- b. Create Dynamic Scraper (PARTNER 2)
- c. Test Partner's Code (PARTNER 1)

Step 3: Plot data based on scraped data

1. Plot the number of enforcement actions over time (PARTNER 2)

2. Plot the number of enforcement actions categorized: (PARTNER 1)

- based on "Criminal and Civil Actions" vs. "State Enforcement Agencies"
- based on five topics

Step 4: Create maps of enforcement activity

1. Map by State (PARTNER 1)

2. Map by District (PARTNER 2)

Extra Credit

1. Merge zip code shapefile with population

2. Conduct spatial join

3. Map the action ratio in each district