CSE332: Data Abstractions

Lecture 25: There is no lecture 25

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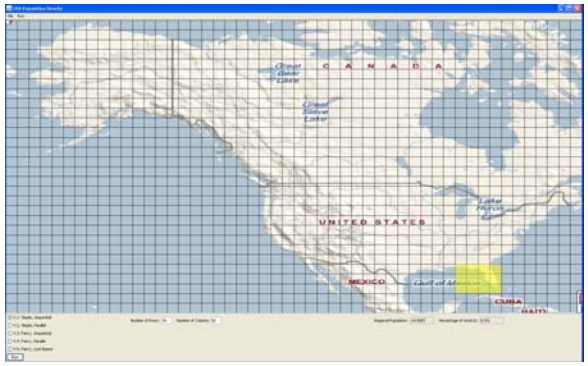
Huh?

- We need most or all of the class to finish up concurrency, using the materials in lecture 24
- We spent a few minutes at the beginning of class discussing a small change to project 3, using the next few slides

GUI



- Optional
- Fun
- Useful for testing against intuition
- Easy to use

- Not good for testing timing
- Not what we'll grade against

Small change to code

- To get the GUI to:
  - Be accurate
  - Give the same answers as your text version
- We had to make a small change to the code provided to you
  - No change to your code or what you do
  - But does change the answers you will get!
    - And slightly harder to compare against answers manually

Projections

News update: The world is a globe and maps are flat

To get a reasonable projection, we can basically change the latitude

- The map in our GUI uses a *Mercator Projection*
- So we're changing the **`CensusGroup`** data to use the same projection…

Changed code

```
class CensusGroup {
      int   population;
      float latitude;
      float realLatitude; // ignore but may help test
      float longitude;
      CensusGroup(int pop, float lat, float lon) {
         population   = pop;
         latitude     = mercatorConversion(lat);
         realLatitude = lat;
         longitude    = lon;
      }
      float mercatorConversion(float lat){
        // math here
      }
}
```


Bottom line

- You can swap in the new **`CensusGroup`** any time before next Tuesday
- Once you do, the latitude in the input file is not the latitude that will be used in your calculations
  - We did this for you
  - But will affect the result slightly: more so for data farther North
  - That's all you have to understand
- Make sense?