Purpose.
1. Create a state-level geographical map of granted patents.
2. Edit the map by modifying its units, legend, and color.
3. Interpret the information displayed in the map.

Pedagogical Rationale. This assignment requires that you first search for data online, select a particular series, and display it in the form of a geographical map. Next, you will edit the format of the map. Lastly, you will interpret the economic information displayed in the map. These tasks will develop your proficiency in searching for, transforming, and interpreting data.

Grading. Your grade will be determined by (a) how precisely you complete the search and transformation data tasks and (b) how accurately you interpret the data.

Steps to Search for and Transform the Data.
1. Access https://geofred.stlouisfed.org and click on "Build New Map."
2. Click on "Choose Data" and under "Region Type" select "State."
3. Under "Data:" search for "U.S. Granted Patents: Total Patents Originating."
4. Select "Not Seasonally Adjusted, Annual, Number," "Units: Number," and "2020" as the date.
5. Click on "EDIT LEGEND" and select from "Interval Method" the option "Fractile."
6. Click on "CHOOSE COLORS" and under "Multi-Hue" select the color scheme that is second from the right in the first row (tagged "ylgnbu").

Discussion Prompts. Answer the following questions:
1. Examine the map you created. Name the state with the largest number of granted patents in 2020. Don't overlook Hawaii and Alaska!
2. Rank and discuss the importance of each of the following factors as a determinant of the number of granted patents in each state:
    a. Size of the resident population;
    b. Presence of large cities;
    c. Number of institutions of higher education;
    d. Particular industries and research centers;
    e. Proximity to the coasts;
    f. Proximity to the mountains.