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**2020070**

**Assignment – 1**

**Problem 1**

1. Graph food services by state with an appropriate geographic visualization

Map

Description automatically generated

The graph's pre-attentive properties indicate that CA, MA, FL, and TX have high levels of food service availability, whereas ND, NE, and AK have low levels of food service availability.

1. Graph food services by county

Map

Description automatically generated

Map

Description automatically generated

The graph's pre-attentive qualities reveal that LA has a high degree of food service availability of 17429 by county.

**Problem 2**

Map

Description automatically generated

Here is a geographic plot that colors each accident in this data set by the street name where the accident happened in Chicago.

Map

Description automatically generated

Chart

Description automatically generated with medium confidence

We may notice regular wrecks in different regions of the city depending on the day of the week. I utilized the first crash type and can see that fixed objects, head one, and another item has caused a lot of accidents, and we can see from the average crash hour that the most common accidents occurred between 12 and 16.

**Problem 3**

Graphical user interface, application

Description automatically generated

1. **Tableau**

Table

Description automatically generated

**R code**



**The plot in R:**

A picture containing text, solar cell, outdoor object

Description automatically generated

1. The graphs in (a) and (b) have several variations; in (a), we see a smoothed dataset that shows the variance of the water level over the year. The dips can tell us the water level for each month, and in section (b), we can see the bulk of the blue area, which indicates greater water levels, and it is evident that in the first month, the water level is lower in the early hours than the rest of the day.

**Problem 4**

A picture containing diagram

Description automatically generated

I utilized colors to emphasize the contrast here. The color blue represents a low water level. The white hue represents the middle water level, while the red color represents the high-water level. I selected contrasting colors so that we can tell them apart as soon as we look at the graph (pre-attentive properties.)

Chart, treemap chart

Description automatically generated