**SQL Database – SQLite**

Based on the grouping shown in the SQL database, the majority of earthquakes from 1995 to 2015 can be classified as Minor, having an average magnitude of 3.3, an average horizontal distance from the epicenter of 0.33 km, and an average depth of approximately 6.35 km.

The minority of earthquakes from 1995 to 2015 can be classified as Major, having an average magnitude of 7.1, an average horizontal distance from the epicenter of 0.51 kilometers and an average depth of approximately 12.24 km.

**Bar Graphs - Python**

As seen in Figure 1, the greatest number of earthquakes occurred in the ‘Minor’ classification, with more than 14,000 earthquakes occurring in this classification between 1995 and 2015. The least number of earthquakes occurred in the ‘Major’ classification, with only 3 earthquakes occurring in this classification between 1995 and 2015.

As seen in Figure 3, the longest average horizontal distance from the epicenter in kilometers occurred in the ‘Strong’ classification, with an average distance of approximately 1.215 kilometers. The shortest average horizontal distance from the epicenter in kilometers occurred in the ‘Minor’ classification with an average distance of approximately 0.33 kilometers.

As seen in Figure 5, the deepest average depth of the event in kilometers occurred in the ‘Strong’ classification, with an average depth of approximately 13.69 kilometers. The shallowest average depth of the event in kilometers occurred in the ‘Minor’ classification, with an average depth of approximately 13.50 kilometers.

**Scatter plots – Python**

As seen in Figure 2, there appears to be a negative correlation between the number of earthquakes that occurred between 1995 and 2015 and the classification of the earthquakes. As the intensity of the classification increases (Minor to Major), the number of earthquakes decreases.

As seen in Figure 4, there does not appear to be a negative or a positive correlation between the average horizontal distance from the epicenter in kilometers for earthquakes that occurred between 1995 and 2015 and the classification of earthquakes. The horizontal distance from the epicenter increases from the ‘Minor’ classification to the ‘Light’ Classification, and then stays the same for the ‘Moderate’ classification, then increases again for the ‘Strong’ classification, and decreases again for the ‘Major’ classification, showing that there is not a significant trend between the average horizontal distance from the epicenter in kilometers for earthquakes that occurred between 1995 and 2015 and the classification of earthquakes.

As seen in Figure 5, there appears to be a positive correlation between the average depth of the event in kilometers for earthquakes that occurred between 1995 and 2015 and the classification of earthquakes. As the classification intensity increases, the average depth increases, with the exception of an anomaly for the ‘Major’ classification.

* Things to Graph:
  + BAR GRAPH: Graph number of earthquakes per classification (one bar per classification)
  + BAR GRAPH: Graph average horizontal distance from the epicenter in kilometers per classification (one bar per classification)
  + BAR GRAPH: Graph average depth of the event in kilometers per classification (one per classification)
  + SCATTER PLOT: Graph classification on the x-axis and number of earthquakes based on classification on the y -axis, and determine if there is any correlation
  + SCATTER PLOT: Graph classification on the x-axis and average horizontal distance from the epicenter in kilometers per classification, and determine if there is any correlation
  + SCATTER PLOT: Graph classification on the x-axis and average depth of the event in kilometers on the y-axis, and determine if there is any correlation
  + TO DO: Description of Max and Min for each bar graph