CSE 6331 Cloud Computing
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Programming Assignment 4
Data Visualization

Cloud Assignment 4 – Amazon AWS **-or-** MicroSoft Azure

Description:
It is difficult to find meaning in large volumes of "textual" output, most users prefer pictures: graphs, pie charts, etc.
Various mechanisms for visualizing data within a browser, which are "light weight" and require no plugins, or additional (local) downloads support showing results which are easy to read and understand.
(Free) supporting tools and libraries include:

Javascript:
d3js.org -- recommended, widely used, easy to use
InfoVis: philogb.github.io/jit/demos.html
js.cytoscape.org
Other:
developers.google.com/chart/
www.highcharts.com (HTML5)

Your assignment is to visualize and display the results from your previous assignment within a browser, allow a user to select intervals or attributes in a data set, show results as a pie chart, a histogram, or a scatter or point chart (possibly connected: a line).

Using those SQL tables to do queries, rather than display the results as text, display as an image (a picture).

Users of this service will interact with your service through web page interfaces, all processing and web service hosting is (of course) cloud based.

Additional Details:

A user should be able to do a query through a web interface, and see the results in a browser. This should require no "local" install (in other words, local installs such as Tableau are really nice, but cost money, don't run on a phone, and are otherwise limiting.) Creating a static image on a server (service) and sending that image (such as a JPG or (most) PDF) have either similar problems or are not very "expressive".
Producing (creating) JavaScript is more flexible, robust, and has many other advantages.

Sample queries might be:
From the quake dataset, show the number of quakes for magnitude below 1, 1 to 2, 2 to 3, up to magnitude 5. Show a Pie Chart with each pie slice in a different color, with labels (totals) outside each pie slice.
Perhaps a bar chart (horizontal bars or vertical bars) is easier to understand.
Perhaps putting the totals inside each pie slice (or bar) is better.
What would a graph of magnitude against depth for the 100 recent quakes look like?
(point chart or scatter chart)

Please, submit through Canvas.
All work must be your own, or from a group.
(Same as previous assignments)