CS 457 - Homework Assignment 1: Data Types

Due Date: Monday, September 04 at 11:59 pm

Purpose:
Demonstrate your understanding of data types by examining a non-trivial public dataset and identifying the NOIR analytical data types of each of the data attributes (variables). This skill set will be used frequently in future data analytics.

Part 1 (30 points)

Question
List each attribute (column) given in the dataset, choose its analytical data type (NOIR type) and explain why you consider this type. Answer without explanation will not be accepted.

Files:
List of all earthquakes for past month:
https://earthquake.usgs.gov/earthquakes/feed/v1.0/summary/all_month.csv

Resources:
About earthquakes and dataset details:
https://earthquake.usgs.gov/earthquakes/feed/v1.0/csv.php

Part 2 (30 points)

Question
Pick analytical data type (NOIR type) for each of the items below and explain why you consider this type. Answer without explanation will not be accepted.

1. Time with possible values AM or PM.
2. Brightness as measured by a light meter.
3. Brightness as measured by people's judgments.
4. Angles as measured in degrees between 0^{o} and 360^{o}.
5. Bronze, Silver and Gold medals as awarded at the Olympics.
6. Height above sea level.
7. Number of patients in a hospital.
8. ISBN numbers for books. (Look up the format on the Web)
9. Ability to pass light in terms of the following values: opaque, translucent, transparent.
10. Military rank.
11. Distance from the center of HU campus.
12. Density of a substance in grams per cubic centimeter.

Part 3 (40 points)

Question
Assume you are doing a study of Habib University students' academic and demographic characteristics and storing this information as a dataset. Identify total of 12 attributes (3N, 3O, 3I, and 3R) and explain why you think is the correct data type. Answer without explanation will not be accepted.

For example: *Academic Year: (Freshman, Sophomore, Junior, Senior) = Ordinal* (because they can be ordered based on their admission year)

Deliverable: Submit a PDF format of your homework solution on Canvas.