In Class Activity

In the next 2 activities we will use a combination of unsupervised and supervised models to evaluate survey data.

The survey data is real. It was collected over three semesters here at Temple. The survey was constructed to investigate student attitudes towards "flipped classroom" instruction of a STEM topic, post COVID.

Here is version one of the semi-supervised M.L. roadmap.



Over the next two classes, we want to use appropriate models and techniques to determine answers to the following questions:

- A. Is student receptiveness to flipped classroom instruction increasing or decreasing?
- B. What characteristics best describe the students who do not want flipped classroom instruction?
- C. What groupings of student responses naturally exist in the data?

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Instructions

- Students should visit the MIS Community site and download: flipped-classroom-survey.xlsx.
- 2. Start by examining flipped-classroom-survey.xlsx in Excel.
- 3. Today, our priority will be data cleaning. As we edit the data, we will document our changes in the Notes tab of the xls file. If you ever need the original spreadsheet, you can download again from the MIS Community site.
- 4. Be sure to document your changes as you go! Follow along with your instructor to:
 - Removed unneeded header rows
 - Rename the "Q" columns as i1, i2, i3 ... i10 (this is extra important!)
 - Add a numeric row id column
 - Deleted record 1 Test record Status 1
 - Delete other incomplete records. (Be sure your row count ends up matching the rest of the class.)
 - Add an "approve" column derived from i10. If i10 >= 4 then approve is 1, otherwise it is 0
 - Add a "semester" column derived startdate semesters are coded as 1, 2 and 3
- 5. To document your participation in this activity, your instructor will ask you to upload your spreadsheet to a corresponding activity on canvas.

As stated in the syllabus: Deliverables from in-class activities will be graded as success (100), some problems (80), unacceptable (50) or failure (0).

The late penalty, also described in the syllabus, applies to this activity.