Exam 02 Review

Material Covered

Exam 02 will include all material covered in Weeks 06 – 09. Topics of specific interest are listed below, but the exam will not be limited to these.

- Concepts needed to process a two-dimensional data structure in "raw" form
- **NumPy**
  - Accessing the library
  - Using the **Array** class, including:
    - Instantiating an **Array** object
    - Retrieving the number of dimensions in an **Array** object
    - Retrieving information about the "shape" of an **Array** object
    - Manipulating the **Array** object in various ways, including:
      - Retrieving values by row
      - Retrieving values by column
      - Retrieving specific cell values
  - Material covered in the W3 Schools **NumPy** Tutorial Page
- **Pandas**
  - Accessing the library
  - Using the **DataFrame** class, including:
    - Instantiating a **DataFrame** object
      - From provided data, such as a List
      - From a provided "flat" file
      - From a view of an existing **DataFrame** object
    - Retrieving various attribute values of an existing **DataFrame**
    - Creating a view of a **DataFrame** object by "slicing":
      - Specific rows
      - Specific columns
      - One or specific cells
    - Using/implementing the concept of "row sampling" in a **DataFrame**
  - Using the **iloc** function
  - Using the **loc** function
  - Using the **groupby** function
  - Aggregation of data within a **DataFrame** object
- **Persistence of Data** (material provided on Blackboard)
- Understand (and be able to explain) the difference between an "**offset**" and an "**index**" in addressing/slicing within a **DataFrame**
- **Assignment 02**

Structure of Exam

There will be an objective portion of the exam, worth 60% of the overall exam grade. Students will take the objective portion of the exam through Blackboard on Thursday, March 31st during the scheduled class period. The objective portion of the exam will resemble Exam 01 in terms of type and composition of questions.

There will also be a coding portion of the exam. This will become available to students on Friday, April 1st and will remain available through Sunday, April 3rd. The coding portion will ask students to complete specific tasks using provided data. Along with instructions for the coding portion, the required input data and a grading rubric will be provided.

Reminder from Exam 01 Recap

I do not reuse exams. For those students who had/have copies of exams from a previous semester, you may find them useful as study tools. However, should any solution/answer from previous semester by submitted, the submitting student will receive a zero for the overall exam grade, and a report will be made to the Department Chair and Community Standard for further action.