

HW 1 - Analyzing Grades

Point72

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In this homework, we will analyze the distribution of grades from last Fall's edition of this course. This is real anonymized data. By analyzing this data set, you will get a sense of how I curved the class at the end of the year. The "Grades.csv" file has all of the necessary data to complete the assignment. Each row of this data set corresponds to the the scores of a single student in the class. The columns of this file have the following meaning:

- Previous Part: Since I only taught two-thirds of the course, my part was worth 67% of the grade and the previous part was worth 33%. This column gives the percentage earned on the first part of the course
- Participation 1/2: These two columns were two participation exercises each worth 1 point. The participation score was worth 5% of the total grade
- Mini Exam 1: Score on the first mini exam out of 20. This mini exam was worth 5% of the total grade.
- Mini Exam 2: Score on the first mini exam out of 21. This mini exam was worth 12% of the total grade.
- Mini Exam 3: Score on the first mini exam out of 12. This mini exam was worth 15% of the total grade.
- Final: Score on the final out of 40. The final was worth 30% of the total grade.

Answer the following questions using R. All the questions are worth 3 points. Making sure your code is organized and commented.

1. What were the approximate grade cut-offs for each half letter grade in terms of the overall percentages earned in the class? So the cut-off for an A, would be the highest final percentage that resulted in an A-. I say

approximate, because this cut-off was not exact for some of the transitions between half letter grades.

2. Is there a correlation between how students did on the mini exams and how they did on the final? Consider this relationship based on the final letter grade they received.
3. Create a plot that shows how many students received each letter grade. Give the plot a title.
4. Create a plot that shows the distribution of overall percentages in the course.
5. Plot the distribution of the scores on the final exam for students receiving every possible letter grade. Since I gave out 7 different letter grades (A+ to C+), you should have 7 different histograms.