

## EE6435 Homework 1 Part 2

Points: 28 for part 2. Part 1 is the completion of the survey and it has 12 points. So the total points are 40 for homework 1.

Out: September 14, 2020 (Monday)

Due: **11:59PM, September 18, 2020 (Friday)**. **No late homework will be accepted.**

Handin method and requirement: name your file as **yourlastname-firstname-studentID-hw1.pdf**. For example, if your name is Amy Zhang, the file should be named as zhang-amy-5678910-hw1.pdf. Upload your pdf file to Canvas.

=====

**Homework overview:** Now we have collected the top 5 character strength data from our class, let us use what we learned in Exploratory Data Analysis to answer the following question:

*Do female and male students tend to have different character strengths?*

For example, you can generate the histogram of 24 character strengths for **female and male** students, respectively. This will allow us to observe whether these two histograms are conserved intra-gender while highly different between the two genders.

**Requirement and grading:** please use two visualization techniques (feel free to use any technique that is not included in class) to **draw an observable conclusion**.

- 1) Tell us which two visualization techniques you used and show their plots for our data
  - a. Correct choice and application of the visualization techniques: 14 pts (7 for each)
- 2) Do a brief analysis based on your figures: do you think female and male students tend to have different character strengths?
  - a. Clear and easy to understand analysis/explanation. Be brief and clear. 10pts
- 3) You can use excel or any other tools/software to help generate the figures. Please tell us which tool you used (4 pts)

### Data:

Canvas→files/homework, “character-report-1.csv” and “character-report-2.csv”. Each complete sample contains 6 attributes: the top 5 character strengths and the gender. The column names in the csv file are self-explanatory. Combine both files into one file and remove lines with incomplete attributes (pre-processing).