

# Homework 3: Multivariate Data with Your Pod

**Objective: Explore and compare different multivariate data visualizations.**

**Task 1:** Create a multivariable dataset by choosing attributes to represent each person in a pod. Be creative. DO NOT USE ANY AUTOMATIC CHART DRAWING SOFTWARE. If you draw on a tablet, that is OK, but colored pencils and paper are preferred.

Example result:

	Attribute 1	Attribute 2	Attribute 3	Attribute 4
Person A*	7	5	3	3
Person B	7	10	1	2
Person C	1	2	3	5
Person D	3	8	6	1
Person E	3	6	12	0

**Task 2:** Each of you will take on one type of plot. Draw and LABEL the following plots.

Person A and B: *Radar plot*. (five separate plots per person). Each person makes their own. Person A turns in their version and Person B turns in their version. Remember to label your axes with the attribute name and units (e.g. inches).

Person C and D: *Parallel coordinate plot*. Each person makes their own. Person C turns in theirs and Person D turns in their version. Remember to label your axes with the attribute name and units (e.g. inches). Make each line a different color. You can choose an axis order that you like.

Person E: *Chernoff faces*. (five total). You must include a key. If there is a person F, they do Chernoff faces as well.

\*Including your podmates' actual names on the table and plots is optional. You can decide among yourselves if you want to include names on the data plots or if you'd like to keep it anonymous (stick with "Person A").

**Task 3:** Share your graphs at a pod meeting and answer the following questions on your own. Turning in the same answers as someone else will result in a 0. (about 400 words).

- 1) Which data visualizations represented the data best, and worst and why? Use the words "anomaly" and "variance".
- 2) Were there differences between the two radar plots? Explain. Was one better than the other? Does positioning of the axes matter?
- 3) Were there differences between the two parallel coordinate plots? Explain. Was one better than the other? Does ordering matter?

To turn in to Canvas: A word document or PDF with the 5 (or 6) drawings (indicate which was yours by writing something like: "THE SECOND RADAR PLOT IS MINE.") and the answers to the 3 questions.

