Objectives: Before you begin coding, it's important to have a plan for data wrangling. In this activity, you will be asked to obtain a specific data frame fitting one or more requirements. You will need to determine which `dplyr` verbs can be applied to obtain which variables in which order to obtain the desired data. You only need to worry about the **verbs**, the **variables**, and the **order**, not the particular syntax in R.

Assignment Organize yourself into groups of 3 or 4. **Work together** to answer the following questions. Write your answers on a chalkboard in the classroom.

The Data

During Fall and Spring of 2017/2018, Math 141 students were asked to complete a survey containing a series of serious and not-so-serious questions. The responses for 20 randomly selected students to several of these questions are printed on the reverse side of this page (a .csv file is also available on today's section of the schedule page of the course website).

The Tasks

Note: You do not need to create the actual data frames or actually compute any values. Just described the verbs, variables, and order needed to obtain the desired data frame. (Although if time permits, you are invited to create some of the data frames once you have finished)

1. Sort students by Hogwarts House, and within house, by year.

2. Find the number of students in each year who think hot dogs are sandwiches.

3. Calculate the median number of college applications submitted by students of Herodotus.

4. Create a data set consisting only of categorical variables (ordered alphabetically), and with student responses ordered alphabetically, starting with the first variable.

5. Identify students whose social and economic views differ by 2 or more points.

6. Create a data set consisting of two variables: Hogwarts House and Political Views, where the Political Views score is obtained by averaging a student's Social and Economic views scores.

7. Count how many students think both that dogs should wear pants on their back legs and that hot dogs are sandwiches.

8. Among students who drink who are not freshmen, create a data set that could be used make a scatterplot of alcohol use vs. social views.

year	historian	alcohol	hogwarts	hot_dog	college_app	dog_pants	social	economic
Sophomore	Herodotus	1.0	Ravenclaw	Maybe	5	Back legs	4	5
Sophomore	Thucydides	1.0	Ravenclaw	No	8	Back legs	3	3
Sophomore	Thucydides	2.0	Gryffindor	No	10	Back legs	5	5
Sophomore	Thucydides	0.0	Hufflepuff	No	11	Back legs	4	4
Sophomore	None	1.0	Slytherin	No	5	Back legs	3	3
Junior	Herodotus	5.0	Slytherin	No	2	Back legs	5	3
Sophomore	Herodotus	0.0	Ravenclaw	No	2	Back legs	3	4
Senior	Herodotus	2.0	Slytherin	No	9	All legs	1	1
Junior	Herodotus	1.0	Hufflepuff	Yes	6	All legs	2	2
Sophomore	Thucydides	3.0	Gryffindor	Yes	1	Back legs	2	4
Junior	Herodotus	0.0	Ravenclaw	No	3	All legs	6	7
Sophomore	Herodotus	1.0	Gryffindor	Yes	7	All legs	1	6
Sophomore	Herodotus	3.0	Ravenclaw	Yes	20	All legs	4	5
Sophomore	Herodotus	4.0	Gryffindor	No	16	All legs	3	2
Junior	Herodotus	0.0	Ravenclaw	No	3	Back legs	2	2
Freshman	Thucydides	0.0	NA	Yes	10	All legs	5	6
Junior	Thucydides	0.1	Gryffindor	No	12	Back legs	3	1
Sophomore	Thucydides	0.5	Slytherin	NA	1	NA	3	8
Freshman	Herodotus	2.0	Gryffindor	Yes	3	Back legs	5	7
Sophomore	Herodotus	0.0	Slytherin	No	13	Back legs	3	4

Header	Explanation
year	Class standing
historian	Respondent's favorite ancient Greek historian
alcohol	How often respondent drinks alcohol a week on average
hogwarts	Hogwarts house identification
hot_dog	Sandwich status of hot dogs
college_app	Number of colleges/universities applied to
dog_pants	How a dog would wear pants
social	Personal political views on social issues, with 1 being extremely liberal and 10 being extremely conservative
economic	Personal Political views on economic issues