For this ungraded assignment, you will be analyzing home sale prices. [Download the starter file](https://tf-assets-prod.s3.amazonaws.com/tf-curric/data-analytics-bootcamp/excel-pivot-table-assignment.xlsx). [See a description of the dataset here](https://www.kaggle.com/c/house-prices-advanced-regression-techniques/data).

Using PivotTables, find the following about the dataset:

1. Find the average sale price for each sale condition.
2. Count the number of homes with each roof type for each neighborhood. *Hint:* Count the number of homes as the count of record ID’s.
3. Find the average number of above grade bathrooms for each year built. *Hint:* Calculate the total number of bathrooms as the number of full baths + 1/2 \* the number of half baths.
4. Find the maximum lot area for each combination of street type and building type.
5. Count the total number of homes with an alley for each neighborhood.
6. Find the average sale price for homes with each type of garage, along with the number of cars the garage can hold.
7. Plot the franchises with the 10 most World Series wins since 1903.

* **Warning:** While the Teams table does include a column called “Name” for the team’s name, this is *not* the same as the *Franchise* name. (For example, the Philadelphia Athletics and the Oakland Athletics are 2 different team names but the same franchise). Find the Franchise name in the TeamsFranchises table.
* **Hint:** PivotTables do not allow for Label or Value filters if a filter is placed in the Filter area. But they do work in a Row or Column. Create your own filter by using conditional logic on the source data to flag the rows that are in 1903 or later.

1. The late 1980s were a “golden age” for stolen bases. But shortly afterward, a new statistically driven approach to baseball became popular, as described in Michael Lewis’s *Moneyball.* One claimed effect of this shift was a drop in stolen bases. Is this actually true? Plot the average number of stolen bases per game from 1990 to 2017.
2. Do wild card teams ever win the World Series? Build a PivotTable that identifies the wild card teams that have won a league championship and/or the World Series. Break out your PivotTable by league, team name, and year.

* **Hint:** Fields exist in the dataset to flag whether a team was a League winner or a World Series winner. Use this information to build your PivotTable, with the caveat that PivotTables can't calculate based on non-numerical data. What you can do, however, is use conditional logic to convert No’s and Yes’s to 0’s and 1’s. You can then use *this* data for PivotTable calculations.

1. It has been speculated that the National League (NL) has had stronger pitching statistics ever since the 1973 introduction of the Designated Hitter in the American League (AL). Plot the average team ERA of AL teams and NL teams since 1973.

* **Hint:** Again, because Filters in the Filter area do not allow for Row or Value filters, use conditional logic to flag the rows in the source data that are "since 1973."

1. Bonus! Plot the following: the franchises with the 10 most World Series victories since 1903 versus those franchises' total number of World Series appearances.

* **Hint:** A team only *appeared* in the World Series, but didn’t win it, if their LgWin value is set to Y but their WSWin value is N.