Lab 3: Advanced Data Modeling

Part 1: Bi-directional cross-filtering

Open `3_1_filtering_direction.pbix` and create two *Slicer* visuals in the *Report* view:

- `Industry group` from the `NAICS Code` dimension
- `Geographic Area Name` from the `Geography` dimension Change both to a list.

Add a *Card* visual and make it display the `Number of employees` from `Summary Statistics for Manufacturing`.

If you select a random state on the `Geographic Area Name` slicer the *Card* visual displays a blank because there is no data associated to this state.

The `Industry Group` doesn't change because the two dimension tables only filter in one direction to the fact table.

To fix this issue, make the two relationships cross filter in both directions in the *Model* view.

Go back to the *Report* view, and note that the selected state now has removed the `Industry group` options. Deselect the state and select `Industry group` "3111".

Which 'Geographic Area Name' is left when 'Industry group' "3111" is selected?

- ○ United States
- ○ All of the states
- ○ Alabama

Part 2: Role-playing dimensions

Import `Summary Statistics Double NAICS.txt` from Chapter 4 subfolder in the Datasets folder on the Desktop.

Navigate to the *Model* view and note that there is a relationship between `Summary Statistics Double NAICS` and `NAICS Code`, linked by `2017 NAICS Code` in both tables.

If for some reason a new table is not showing up in the Model view, you can manually add a relationship using the Manage relationships icon in the Home menu. Click "New..." and select the tables and columns where you want to define the relationship.

Create a second relationship between the `2017 NAICS Code` column from the `NAICS Code` dimension and the `NAICS Code Related` column from `Summary Statistics Double NAICS`. Note that the relationship will be inactive.

In the *Report* view, create a new measure `Related Number of employees` in the `Summary Statistics Double NAICS` table:

- Use the `CALCULATE()` function, to sum the `'Summary Statistics Double NAICS'[Number of employees]` using the relationship between `'NAICS Code'[2017 NAICS Code]` and `'Summary Statistics Double NAICS'[NAICS Code Related]`.
- The second argument of `CALCULATE()` should use the `USERELATIONSHIP()` function.

- Create a new page and call it `Role Playing`.
- Add a *Scatter chart* visual using `NAICS Code`, `Number of employees`, and `Related Number of employees`.
- Make a basic filtering for `SUBSECTOR` to exclude Blanks.

What is the SUBSECTOR number with the highest total of Related Number of employees?