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**Hands-On Activity: Working with the Great British Bake-off Dataset in Tableau**

# Overview

In this activity, you will work with multiple datasets related to the popular baking competition, Great British Bake-off. You will set relationships, create visualizations, and build a dashboard in Tableau Desktop.

These datasets have already been cleaned for us so we can work with them in Tableau without cleaning them first.

*Note: If they were not already cleaned, we would need to clean the data in Excel, for example, or in Tableau Prep if we had a paid subscription to that service. People often use Tableau in conjunction with other software, which they use to query, clean or transform the data initially.*

# Datasets

* Bakers.csv
* ChallengeBakes.csv
* Episodes.csv
* Outcomes.csv
* Seasons.csv

# Objectives

* Set relationships between the datasets
* Load data into Tableau
* Create 3-4 visualizations
* Combine visualizations into a dashboard

# Steps

## Step 1: Connect to the data in Tableau

1. **Open Tableau** from the Start Menu.
2. Under the **Connect** menu on the left of the screen, choose *text file*.
3. Navigate to the *Bakers* file and Select *Open*.

## Step 2: Check the column datatypes

1. Click on the icon to the upper left of the season column. These will look different depending on what datatype the column is.

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1. When you click on it, you will be able to see what datatype is checked. If the datatype checked does not match the contents of column then you would need to select the correct datatype. All the datatypes of the columns are correct in these datasets however so we don’t need to make any changes. The *Season* column should be a *whole number* datatype, for example, and the *Baker* column should be a *String* datatype.

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1. You can click on the gray space above the columns to exit the datatypes menus.

## Step 3: Setting Relationships

1. **Set the relationship between Bakers.csv and ChallengeBakes.csv.**
   * Drag ChallengeBakes.csv next to Bakers.csv in the view.
   * There should be a red warning connecting the two tables letting us know that the relationship between these two tables is unknown.

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* + To define the relationship between Bakers.csv and ChallengeBakes.csv, click on the line connecting the two tables.
  + In the relationship menu now available in the bottom panel of the screen, select the column Baker from the pulldown menu for Bakers.csv and select Baker from the pulldown menu for ChallengeBakes.csv. The operator should be an = sign.

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1. **Set the relationship between Bakers.csv and Episodes.csv.**
   * Drag Episodes.csv to the view, under ChallengeBakes.csv.
   * Tableau should have automatically recognised the relationship between Bakers.csv and Episodes.csv. Check that the relationship menu below says Season (from Bakers.csv) = Season (from Episodes.csv)

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1. **Set the relationship between Bakers.csv and Outcomes.csv.**
   * Drag Outcomes.csv to the view, under Episodes.csv.
   * Tableau should have automatically recognised the relationship between Bakers.csv and Outcomes.csv. Check that the relationship menu below says Baker (from Bakers.csv) = Baker (from Outcomes.csv)

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1. **Set the relationship between Bakers.csv and Seasons.csv.**
   * Drag Seasons.csv to the view, under Outcomes.csv.
   * Tableau should have automatically recognised the relationship between Bakers.csv and Seasons.csv. Check that the relationship menu below says Season (from Bakers.csv) = Season (from Seasons.csv)

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* + Your tables should now all be linked properly…

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**Let's move on now to loading this data into Tableau.**

## Step 3: Loading Data into Tableau

1. **Load your dataset:**
   * Once the relationships are set, click 'Sheet 1' at the bottom of the screen.
   * Tableau will load your data and show you a data pane on the left with all the fields.

**Now let’s create some visualizations!**

## Step 4: Creating 4 Visualizations

This is where the fun begins. Let’s create a few different visualizations to understand our data better.

### 1. Create a Bar and Pie Chart showing the Gender Distribution of Bakers

**Steps:**

1. **Create the Chart:**
   * + Go to a new worksheet.
     + Drag the Gender field from the Bakers table to the **Columns** shelf.
     + Drag the Baker field from the Bakers table to the **Rows** shelf.
     + Tableau will display each baker as individual marks. To aggregate these, click on the drop-down arrow next to Baker in the Rows shelf, and select **Measure** -> **Count**. This changes it to COUNT(Baker).

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1. **Format the Chart:**
   * You most likely will not need to do this but, if the visualisation is not a bar chart, change the chart type in the *Marks* field to the left of the canvas to *Bar*.

**A screenshot of a graph

Description automatically generated**

* + Right-click on the Y-axis, select *Edit Axis*, and rename it to *"Number of Bakers”.*

**A screenshot of a computer

Description automatically generated**

1. Drag *Gender* from the Bakers table into the *Colour* field of the *Marks* Card
2. Let’s change this to a pie chart afterall. Click on *Show Me* in the upper right of the screen and select the pie chart from the visualisations menu that appears.

A screenshot of a computer

Description automatically generated

1. Hold down *CTRL* and drag *CNT(Baker)* from the bottom of the Marks card to *Label* on the Marks Card to add the actual number of Bakers of each gender to the chart.

A blue circle with black text

Description automatically generated

1. Change the menu in the centre of the top ribbon from Standard to Entire View so you don’t have to squint to see the pie chart.

A screenshot of a computer

Description automatically generated

1. Double click where it says Sheet 1 at the bottom of the screen and rename this visualisation to **“Gender Distribution of Bakers”.**

**A close up of a text

Description automatically generated**

### 2. Create a Line Chart showing Average Age of Bakers by Season

Steps:

1. Create the Chart:
   * On the very bottom of the screen, click on the icon to the right of your existing worksheet to open a new worksheet.

A close up of a text

Description automatically generated

* + Drag the Season field from the Bakers table to the Columns shelf.
  + Drag the Age field from the Bakers table to the Rows shelf.
  + Tableau defaults to SUM(Age). Click on the drop-down arrow next to SUM(Age) on the Rows shelf and change it to AVG(Age).

1. Now we need to ensure that Season is treated as a discrete dimension, not as a measure.
   * + Right-click on the SUM(Season) pill in the Columns shelf.
     + Select **Dimension** to ensure Season is treated as a discrete dimension, not as a measure.
     + Click the drop-down arrow on the Season pill and select *Discrete*.
2. Formatting:
   * In the Marks card, click on the Colour button and select the line with markers icon in the bottom centre.

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* + Double click *Sheet 2* at the bottom of the screen and rename it *Average Age of Bakers per Season.*

### 3. Create a Box and Whisker Plot Chart showing Average Age of Bakers

**Steps:**

1. Create the Chart:
   * On the very bottom of the screen, click on the icon to the right of your existing worksheet to open a new worksheet.
   * Drag *Age* from the Bakers table to the Rows shelf.

A green and white rectangle with white text

Description automatically generated

* + Drag *Baker* to the *Detail* field of the Marks card.

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Description automatically generated

* + If the visualisations pane is not already open, then click on ShowMe in the upper right of the screen.

A close up of a text

Description automatically generated

* + In the visualisations pane, select box plot.

A diagram of a graph

Description automatically generated with medium confidence

* + Right click on *Age* in the columns shelf and select *Measure* > *Average*.

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* + Double Click on Sheet 3 at the bottom of the screen and rename the sheet to Average Age Baker Box Plot.

A close up of a text

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### 4. Create a Line Chart showing Average My Viewership Score Per Season/Network

**Steps:**

1. Create the Chart:
   * On the very bottom of the screen, click on the icon to the right of your existing worksheet to open a new worksheet.
   * Drag *Season* from the *Bakers* table to the *Columns* shelf.
   * Right click on *Season* in the Columns shelf and select *Dimension.*

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* + Drag *My Viewership* from the *Episodes* table to the *Rows* shelf.
  + Right click on *My Viewership* in the Rows shelf and Select *Measure > Average.*
  + Drag *Network* from the *Seasons* table to the *Label* field of the Marks card.
  + Double Click on Sheet 4 at the bottom of the screen and rename the sheet “*Average viewership per Season/Network*”.

A graph on a white background

Description automatically generated

Fantastic! We've created some insightful visualizations. Now, let's combine them into a dashboard.

## Step 5: Making Visualizations into a Dashboard

1. **Create a dashboard:**
   * Click on the 'New Dashboard' icon at the bottom of the screen.

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Description automatically generated

* + You'll see a blank canvas and your visualizations on the left.

1. **Format the Canvas Size:**
   * Click the *down arrow under Size* to the left and then choose *Fixed Size* from the next menu down, for Range.

A screenshot of a computer

Description automatically generated

* + From the next pull-down menu below, choose *Generic Desktop* to fit the canvas to most computer screens.

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1. **Drag visualizations onto the dashboard:**
   * Drag each of your visualizations onto the dashboard canvas.
   * Arrange them as you see fit. You can resize and reposition them to create a cohesive layout. They will slot into tiles on your screen as the default layout is Tiled (vs. Floating).
2. **Add interactivity:**
   * Click on the **Gender Distribution of Bakers Pie Chart** to select that visualisation.
   * In the options to the upper right of the chart, click on the filter (looks like a funnel) option to tell Tableau that you want to use this visualisation as a filter.
   * Now try clicking to select the Slice corresponding to Male Bakers. (probably an orange slice).
   * Note how most of the other graphs change to show only data about the male bakers when you click on that slice of the pie chart.
   * Select each of the other visualisations on the dashboard and Select Use as Filter for those charts as well.
   * Click on various part of the charts to see how they impact the data shown in them.

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1. **Finalize and publish:**
   * Save your work and, if you want, publish it to Tableau Public to publish it online.

**And there you have it! You've created a dynamic dashboard in Tableau from scratch.**

**Questions?**

* If you have any questions or need assistance, feel free to ask your instructor or a peer.