4.10.2 Score Averages Grouped by School Name

Now that you have the DataFrames for each grade level, Maria says you can get the average math and reading scores for each grade level and for each school. She reminds you that the school will be the index and the averages will be the column.

To get the average math and reading scores for each grade level and for each school, we need to do the following:

- Use the `groupby` function to group by the `school_name` column
- Calculate the mean `math_score` and `reading_score`

REWIND

When we use the `groupby()` function on a DataFrame, we need to perform a mathematical operation on the `groupby()` object by selecting a column from the DataFrame.

Get the Average Math Scores by School

First, we will get the average math score for each school. For each grade level DataFrame, we will use the `groupby()` function on the `school_name` column and apply the `mean()` on the `math_score` column.

To get the `math_score` averages for each grade level, add the following code in a new cell and run the cell.

```
# Group each grade level DataFrame by the school name for the average math s
ninth_grade_math_scores = ninth_graders.groupby(["school_name"]).mean()["mat

tenth_grade_math_scores = tenth_graders.groupby(["school_name"]).mean()["mat

eleventh_grade_math_scores = eleventh_graders.groupby(["school_name"]).mean(

twelfth_grade_math_scores = twelfth_graders.groupby(["school_name"]).mean()[
```

When we print out the first five rows for the `ninth_grade_math_scores`, the Series will look like the following image; the index is the school name, and the first column is the average math scores for ninth graders.

```
ninth_grade_math_scores

school_name
Bailey High School       77.083676
Cabrera High School      83.094697
Figueroa High School     76.403037
Ford High School         77.361345
Griffin High School      82.044010
Hernandez High School    77.438495
Holden High School       83.787402
Huang High School        77.027251
Johnson High School      77.187857
Pena High School         83.625455
Rodriguez High School    76.859966
Shelton High School      83.420755
Thomas High School       83.590022
Wilson High School       83.085578
Wright High School       83.264706
Name: math_score, dtype: float64
```

Retake

Get the Average Reading Scores by School

We can repurpose this code to find the average reading scores for each grade level by replacing `math_score` with `reading_score`. Add the following code in a new cell and run the cell.

```
# Group each grade level DataFrame by the school name for the average readin
ninth_grade_reading_scores = ninth_graders.groupby(["school_name"]).mean()["

tenth_grade_reading_scores = tenth_graders.groupby(["school_name"]).mean()["

eleventh_grade_reading_scores = eleventh_graders.groupby(["school_name"]).me

twelfth_grade_reading_scores = twelfth_graders.groupby(["school_name"]).mean
```

When we print out the first five rows for the `ninth_grade_reading_score`, the Series will look like the following image; the index is the school name, and the first column is the average reading scores for ninth graders.

```
ninth_grade_reading_scores

school_name
Bailey High School       81.303155
Cabrera High School      83.676136
Figueroa High School     81.198598
Ford High School         80.632653
Griffin High School      83.369193
Hernandez High School    80.866860
Holden High School       83.677165
Huang High School        81.290284
Johnson High School      81.260714
Pena High School         83.807273
Rodriguez High School    80.993127
Shelton High School      84.122642
Thomas High School       83.728850
Wilson High School       83.939778
Wright High School       83.833333
Name: reading_score, dtype: float64
```

Retake

Now that we have this information, we need to generate a report showing the average math and reading scores by grade level. Let's add all of the data to a DataFrame!