The company would like you to generate a report that breaks down the game's purchasing data into meaningful insights. Your final report should include each of the following:

* Total Number of Players
* Purchasing Analysis (Total):
  + Number of Unique Items
  + Average Purchase Price
  + Total Number of Purchases
  + Total Revenue
* Gender Demographics:
  + Percentage and Count of Male Players
  + Percentage and Count of Female Players
  + Percentage and Count of Other / Non-Disclosed
* Purchasing Analysis (Gender):
  + The below each broken by gender
    - Purchase Count
    - Average Purchase Price
    - Total Purchase Value
    - Average Purchase Total per Person by Gender
* Age Demographics:
  + The below each broken into bins of 4 years (i.e. &lt;10, 10-14, 15-19, etc.)
    - Purchase Count
    - Average Purchase Price
    - Total Purchase Value
    - Average Purchase Total per Person by Age Group
* Top Spenders:
  + Identify the the top 5 spenders in the game by total purchase value, then list (in a table):
    - SN
    - Purchase Count
    - Average Purchase Price
    - Total Purchase Value
* Most Popular Items:
  + Identify the 5 most popular items by purchase count, then list (in a table):
    - Item ID
    - Item Name
    - Purchase Count
    - Item Price
    - Total Purchase Value
* Most Profitable Items:
  + Identify the 5 most profitable items by total purchase value, then list (in a table):
    - Item ID
    - Item Name
    - Purchase Count
    - Item Price
    - Total Purchase Value
* As final considerations:
* You must use the Pandas Library and the Jupyter Notebook.
* You must submit a link to your Jupyter Notebook with the viewable Data Frames.
* You must include a written description of three observable trends based on the data.
* See [Example Solution](HeroesOfPymoli/HeroesOfPymoli\_starter.ipynb) for a reference on expected format.

You've been asked to analyze the district-wide standardized test results. You'll be given access to every student's math and reading scores, as well as various information on the schools they attend. Your responsibility is to aggregate the data to and showcase obvious trends in school performance. Your final report should include each of the following:

* District Summary:
  + Create a high level snapshot (in table form) of the district's key metrics, including:
    - Total Schools
    - Total Students
    - Total Budget
    - Average Math Score
    - Average Reading Score
    - % Passing Math (The percentage of students that passed math.)
    - % Passing Reading (The percentage of students that passed reading.)
    - % Overall Passing (The percentage of students that passed math \*\*and\*\* reading.)
* School Summary:
  + Create an overview table that summarizes key metrics about each school, including:
    - School Name
    - School Type
    - Total Students
    - Total School Budget
    - Per Student Budget
    - Average Math Score
    - Average Reading Score
    - % Passing Math (The percentage of students that passed math.)
    - % Passing Reading (The percentage of students that passed reading.)
    - % Overall Passing (The percentage of students that passed math \*\*and\*\* reading.)
* Top Performing Schools (By % Overall Passing)
  + Create a table that highlights the top 5 performing schools based on % Overall Passing. Include:
    - School Name
    - School Type
    - Total Students
    - Total School Budget
    - Per Student Budget
    - Average Math Score
    - Average Reading Score
    - % Passing Math (The percentage of students that passed math.)
    - % Passing Reading (The percentage of students that passed reading.)
    - % Overall Passing (The percentage of students that passed math \*\*and\*\* reading.)
* Bottom Performing Schools (By % Overall Passing)
  + Create a table that highlights the bottom 5 performing schools based on % Overall Passing. Include all of the same metrics as above
* Math Scores by Grade
  + Create a table that lists the average Math Score for students of each grade level (9th, 10th, 11th, 12th) at each school.
* Reading Scores by Grade
  + Create a table that lists the average Reading Score for students of each grade level (9th, 10th, 11th, 12th) at each school.
* Scores by School Spending
  + Create a table that breaks down school performances based on average Spending Ranges (Per Student). Use 4 reasonable bins to group school spending. Include in the table each of the following:
    - Average Math Score
    - Average Reading Score
    - % Passing Math (The percentage of students that passed math.)
    - % Passing Reading (The percentage of students that passed reading.)
    - % Overall Passing (The percentage of students that passed math \*\*and\*\* reading.)
* Scores by School Size:
  + Repeat the above breakdown, but this time group schools based on a reasonable approximation of school size (Small, Medium, Large).
* Scores by School Type:
  + Repeat the above breakdown, but this time group schools based on school type (Charter vs. District).
* As final considerations:
  + Use the pandas library and Jupyter Notebook.
  + You must submit a link to your Jupyter Notebook with the viewable Data Frames.
  + You must include a written description of at least two observable trends based on the data.
  + See [Example Solution](PyCitySchools/PyCitySchools\_starter.ipynb) for a reference on the expected format.