Ada Developers Academy

Cohort 16 Data Analysis Instructions

WHAT WE'RE LOOKING FOR

- Demonstration of an aptitude to recognize patterns, try different paths, and conclude logical findings
- Ability to clearly document thought process, assumptions, and conclusions
- Please detail your thinking and problem solving process. We evaluate this more than the final correct answer.

DATA

The data set that you will need to analyze comes from the High School Graduate Outcomes - Earnings. (If you are curious what each column means, details are listed there.)

The dataset, in CSV format should be downloaded from us. To open these files you are welcome to use Excel, Numbers.app, the free alternative LibreOffice, or any other program that opens CSV files.

If you prefer to work with Google Sheets, please make a copy of this Google Sheet. You will need to make your own copy in order to edit and organize the data to answer the questions below.

If you cannot open the file on your computer, you should try a local public library. If you have exhausted all options, please email admissions@adadevelopersacademy.org.

OVERVIEW

There are five questions related to the above datasets, in order of increasing complexity and ambiguity. For each of the five questions you will need to provide both your answer and an explanation of your process, assumptions, choices, and reasoning.

For each question, we are looking for logical arguments to support your answer and to understand your approach. For all questions we ask that you keep your explanation concise (under 500 words per question) as our reviewers have a large number of applications to process. Please use a bulleted format to describe the steps in your process.

BEFORE YOU BEGIN

Before beginning to work on any of the following questions first **include only** rows where:

- The **DistrictTTL** is **equal** to any of the following:
    - *"Seattle Public Schools",*
    - *"Lake Washington School District"*
    - *"Bellevue School District"*
    - *"Mercer Island School District"*
    - *"Renton School District"*
- The **YearAfterGrad** is greater than **or** equal to **7.**
- The **SchoolTTL does not contain** the word **"District"**

Note: You may want to create a copy with only the selected rows within it to speed up your calculations. Some programs may have trouble with large datasets.

QUESTIONS

Question 1: What is the school (**SchoolTTL**) and achievement level (**HighestAchievement**) with the greatest number of records (**NumRecords**)?

Question 2: What is the sum **NumRecords** for **HighestAchievement** of a *"Bachelor's or Higher"* using the **DemographicGrouping** *"All Students"*?

Question 3: What is the **median** of the median earnings (the **MedianEarnings** column) among students who had a **DemographicValue** of Free or Reduced Price Lunch status (*"FRPL"*) and who's highest level of academic achievement was *"HS Diploma"*?

Question 4: What is the difference in highest **MedianEarnings** for students with a highest achievement of *"Bachelor's or Higher"* between *"Male"* and *"Female"* students?

Question 5: What school districts had students that had higher **MedianEarnings** than the "Median household income (in 2019 dollars), 2015-2019 in **Washington State** according to the US Census Bureau"?