



Elbonia Expenditures (Java)

1. The Story

Elbonia has a the most complex taxation in the world. At the same time they have least digital solutions in place to manage all that complexity. Amongst others they have a reverse taxation law requiring government purchases to contain an extra fee supporting the business of the supplier. The fee is calculated with a super-secret function using the supplier employee count, the number of cars the CEO of given supplier owns, the number of people that were in the room at the point of making the deal and many other factors. To estimate the next year's budget details the Elbonian government would like to get some statistics from the data they have about previous years' expenditures. The Chief Excel Excellence of Elbonia failed to complete this task due to high level of variability in the data. Now they turn to professional software developer, you, to complete this critical task for them.

2. Assignment

You have been given a partial data export of the various expenditures of the Elbonian government. (an example of this file is in the resources folder of the application provided)

Implement the algorithm to extract the required data from the Excel input file. You are requested to find the following statistical information:

- Find the name of the supplier, who has gained the most money from additional fees
- Find the average fee percentage for Elbonia (i.e. the ratio of money spent on fees and money spent overall)
- Find two products that have smallest difference in paid fees (i.e. the amount of money spent on fees for the two products is closest)

While implementing your solution you can make following assumptions:

- All data will be on one sheet that will be named "Expenditures"
- The order of the columns (e.g. Date, Supplier, etc.) will be the same as in the example
- When doing calculations, using rounding precision of 4 decimals is sufficient with rounding mode HALF_UP

The completed application should work correctly with files several times larger than the provided example.



You are required to also write tests for the application. Minimum of 4 tests are required. Completing provided partial tests also count. In addition to quantity, the quality of tests is also evaluated.

3. Tech guide

3.1. Gradle reminder

Remember that gradle commands can be executed in several different ways:

1. When you have Gradle installed: `gradle <command>`
2. When working on Windows command line or PowerShell: `gradlew.bat <command>`
3. When working on MacOS, Linux or Windows 10 Shell: `./gradlew <command>`

3.2. Assignment setup

The gradle tasks you'll need to know for this assignment:

- `gradle build` – compiles and tests the code
- `gradle run` – runs the application and prints three required values to system out

You may add more dependencies to the application, but most if not all the required libraries are already included.