

Test Mathematical Accuracy using AI Based Interactive Application

Objective

It is a very important procedure in financial statements to check whether numbers presented in the reports/financial statements are accurate; thereby checking 'Accuracy' assertion.

Financial statements contain significant information about a company's financial health which helps the end user of Financial Statements to arrive at economic decisions. Hence, as an auditor, it is important to ensure that financial statements are free from any misstatement from mathematical accuracy perspective such as totals, recalculations, etc.

Requirement

Using the steps explained below, create an AI Based Interactive Application to perform vertical recalculation of Totals, Sub-totals, or Grand totals **for any given statement** and show calculation and differences in an excel file.

Files Included

1. **Instruction Document.docx** – This document
2. **Calculation Guide** – Tick marks are provided for your reference to understand which Financial Item are included within the calculation of each Total, Sub-totals, or Grand Totals.
3. **Example_Solution_Consolidated Statement of Balance Sheet.xlsx** – This is the expected output.
4. **Overview of Financial Statement.docx** – *This document gives you an understanding of a Financial Statement and its parts.*

Folders Included

1. **Input folder: "10-K.pdf"** – This is the input file that you will be using to **perform the procedures** mentioned in the requirement.
In the input **10-K file** there are **five statements** mentioned below. Please perform the procedures as per the example file for the **statements listed below**. You can choose **any one** of the statements for demonstration. We have provided an example for the Consolidated Balance sheet in excel file.
 - CONSOLIDATED BALANCE SHEETS
 - CONSOLIDATED INCOME STATEMENTS
 - CONSOLIDATED STATEMENTS OF EQUITY
 - CONSOLIDATED STATEMENTS OF CASH FLOWS
 - CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
2. **Output Folder:** This is the folder where you're required to save the **Output generated** using AI Based Interactive Application

FYI, the AI Application you are creating should be able to generate an output for any type of statements the user intends to input. (There might be additional columns or rows or vice-versa in other statements as compared to the "Consolidated Statement of Balance Sheet.pdf" we provided to you in the input folder.)

Steps to perform the procedures:

Step 1: Use any LLM (e.g., OpenAI, Gemini) to create an AI Based Interactive Application as per the requirement.

Step 2: Create a **basic User Interface** with the following features: *(this step is optional, but if you perform it, you will receive an extra 15 credits)*

1. A UI to interact with AI application.
2. An upload option to browse and upload the relevant file from the input folder.
3. A download feature to download and save the processed output in the output folder.

Step 3: Upload the input file "10-K.pdf" into the AI Based Interactive Application.

Step 4: The AI Based Interactive Application **should be able to convert** the "10-K.pdf" uploaded at Step 3 **to excel format**. (The excel created by the AI Based Interactive Application must be in the same format input pdf file. It should include all columns and rows as per the pdf for recalculation in the following steps. Refer- **Example_Solution_Consolidated Statement of Balance Sheet.xlsx**). *(Step 4 & 5 is the main feature and has 100 credits)*

Step 5: Refer the 'Calculation Guide and Example_Solution_Consolidated Statement of Balance Sheet.xlsx' and use the AI Based Interactive Application to **recalculate the totals, sub-totals, grand totals** (as applicable) within the excel file.

Add a row below the **totals or sub-totals or grand totals** and using excel formula, calculate each value. Name the row as "Calculation". *(You must ensure that the formulas used for calculation remain within the corresponding cells, as demonstrated in the example. The recalculated value should be determined by the formula.)*

1. Add a row below the recalculated row and show the difference between recalculated value and value as per the document Name the row as "Difference". *(You must ensure that the formulas used for calculation remain within the corresponding cells, as demonstrated in the example. The recalculated value should be determined by the formula.) (Step 4 & 5 is the main feature and has 100 credits)*

Step 6: Save the Output you created in the above steps in the Output folder.

Step 7: Using the AI Based Interactive Application ask the following questions and generate answer.

(Note: The questions are not limited to the ones listed below, the application you build should be able to analyze the document and answer any questions.)

Q1. Were Total Assets are matching with Total liabilities and stockholders' equity for both period?

Ans: Yes

Q2. What is the value of Total Current Assets for the period As of July 29, 2023' & 'As of July 30, 2022'?

Ans: 2024 - \$43,348; 2023 \$36,717.

Q3. What is the value of Total Assets as of July 29, 2023?

Ans: \$101,852

Note: Refer to the Example_Solution_Consolidated Statement of Balance Sheet.xlsx for an understanding of expected output.