SQL Assignment

Dataset Description: For this assignment, you will be working with a dataset containing information about a Stock Market. The dataset includes the following tables:

- Company Name:
    - Name:
    - Ticker:
    - Sub-Sector:
    - Market Capital:
    - Close Price:
    - PE Ratio:

- Revenue:
    - Ticker:
    - 5Y Historical Revenue Growth
    - 1Y Forward Revenue Growth
    - Total Revenue
    - Profit Before Taxes (PBT)
    - Taxes & Other Items

- Promotor Detail:
    - Ticker:
    - DII Holding Change for last 3 months:
    - MF Holding Change for last 3 months:
    - Promoter Holding Change for the last 3 months:
    - Percentage Buy Recommendation:
    - No. of analysts with buy recommendations:
    - Percentage Upside:

Task 1: Data Exploration and Cleaning

1. Load the dataset into a MYSQL Workbench database and examine its structure.
2. Identify and impute the missing value with 0.
3. Perform any necessary data cleaning operations to ensure data integrity and consistency.

Task 2: Basic Queries

1. Calculate the average PE ratio and market cap for all companies.
2. Find the top 5 companies with the highest market Cap.
3. Identify companies with a PE ratio greater than 20 and a percentage upside above 15%.
4. Fetches the unique values of the Sub-Sector from the Company detail table and prints its length.
5. Create a new column name Retail holding change by adding all the holding columns in the table.

Task 3: Joins Queries

1. Retrieve the names, Market Cap, and sub-sectors of companies along with their DII holding change in the last 3 months.
2. List companies and their corresponding sub-sectors where FII holding change is greater than MF holding change.
3. Combine all 3 tables into 1 table with these columns (company name, Sub-sector, Market price, PE ratio, Total Revenue, Percentage upside, promotor holding) and the name of the merge table is Stock market.

Task 4: Advance Queries and Window Function Queries

1. Determine the percentage of companies with 1-year forward revenue growth above 10% and a PE ratio below 15.
2. Calculate the average taxes and other items as a percentage of total revenue for each sub-sector. --
3. Find the companies with the highest percentage of buy recommendations and their respective sub-sectors.
4. Calculate the top 5 sub-sectors with the highest profit margin by computing the profit margin using the formula ((Profit Before Taxes - Taxes - Other Items) / Total Revenue) * 100, derived from the company detail table."
5. Write a query to display the company name, sub-sector, market cap, and the market cap column with a modified title large-cap for those whose market cap is greater than 50000 Cr., mid-cap for those whose market cap is between 20000 and 50000 Cr, and small-cap for whose market cap Is less than 20000 Cr.
6. Rank companies based on their 1-year forward revenue growth within each sub-sector.

7. Calculate the average market cap for the top 3 companies with the highest close prices in each sub-sector.
8. Find the percentage difference in total revenue between each company and the average total revenue of its sub-sector.

Submission Guidelines:

1. Write the SQL queries and perform the analysis in your preferred SQL environment (e.g., MySQL, PostgreSQL).
2. Include comments in your SQL code to explain your approach and assumptions.
3. Provide the SQL code, along with the query results, and your report, in a well-organized document (e.g., Word, PDF).
4. Completed the Quiz based on that SQL Assignment
5. Submit your completed assignment document by the specified deadline.