Assignment 9 – Charlie Team

Willson Financial Case Study

**Business Rules**

1. Company Registration and Compliance
   * Willson Financial is registered with the SEC.
   * A compliance manager ensures that the company follows SEC regulations.
2. Employees
   * Jake and Ned Willson are the primary financial advisors.
   * Phoenix Two Star handles office duties, including client appointments and office supplies.
   * June Santos is the part-time compliance manager.
3. Clients and Client Management
   * Clients are individuals or entities receiving financial management and advising services.
   * Clients have assets that need to be tracked.
   * Clients may have multiple transactions each month.
4. Billing and Transactions
   * The company needs to track the number of transactions for each client.
   * Billing structures need to be evaluated based on client activity and assets.
5. Reporting and Analysis
   * Track the number of new clients added monthly.
   * Calculate the average assets per client.
   * Identify clients with many transactions (more than 10 per month).

Assumptions

* Clients can have multiple types of assets.
* Transactions are tracked monthly.
* The business operates on a monthly reporting cycle.

Initial ERD

Based on the business rules, the initial ERD includes the following entities:

1. Employees
   * EmployeeID (PK)
   * Name
   * Position
   * EmploymentType (Full-Time, Part-Time)
   * HireDate
2. Clients
   * ClientID (PK)
   * Name
   * ContactInfo
   * JoinDate
3. Assets
   * AssetID (PK)
   * ClientID (FK)
   * AssetType (e.g., Cash, Investments, Real Estate)
   * Value
4. Transactions
   * TransactionID (PK)
   * ClientID (FK)
   * TransactionDate
   * Amount
   * Description
5. Billing
   * BillingID (PK)
   * ClientID (FK)
   * BillingDate
   * Amount
   * BillingMethod (Fixed Fee, Percentage of Assets)

Initial ERD Diagram

A screenshot of a diagram

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Milestone #2: Detailed ERD and Python Scripts

For Milestone #2, we will expand our ERD to include more attributes and refine relationships. Then, we’ll create the Python script to generate and populate the database tables.

Finalized ERD

1. Employees
   * EmployeeID (PK)
   * Name
   * Position
   * EmploymentType (Full-Time, Part-Time)
   * HireDate
2. Clients
   * ClientID (PK)
   * Name
   * ContactInfo
   * JoinDate
   * Status (Active, Inactive)
3. Assets
   * AssetID (PK)
   * ClientID (FK)
   * AssetType (e.g., Cash, Investments, Real Estate)
   * Value
   * ValuationDate
4. Transactions
   * TransactionID (PK)
   * ClientID (FK)
   * TransactionDate
   * Amount
   * Description
   * TransactionType (Credit, Debit)
5. Billing
   * BillingID (PK)
   * ClientID (FK)
   * BillingDate
   * Amount
   * BillingMethod (Fixed Fee, Percentage of Assets)

A screenshot of a computer

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Python Script to Create and Populate Tables

Link to the Python script: [python script](https://github.com/bkonan/csd-310/blob/main/module-9/createDBandTables.py)

Milestone #3: Reports

To assist in making business decisions, we will generate the following reports:

1. New Clients Added Per Month
2. Average Client Assets
3. Clients with High Transaction Volume

Report Descriptions and Python Scripts

1. New Clients Added Per Month
   * This report shows the number of new clients added each month for the past six months.

Link to Python script: [python Script](NULL)

Average Client Assets

* This report calculates the average amount of assets for the entire client list.

Link to Python script: [python script](https://github.com/bkonan/csd-310/blob/main/module-9/ReportAverageClientAsset.py)

Clients with High Transaction Volume

* This report identifies clients with more than ten transactions in the past month.

Link to Python script: [python script](https://github.com/bkonan/csd-310/blob/main/module-9/ReportClientHightTransactionVolume.py)

Python script screenshot:

1. Database and tables creation

A screenshot of a computer

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1. Report average client asset report

A screenshot of a computer

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1. Client with high transaction volume

A computer screen shot of a program code

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