**Project Title:**

**Student Financial Planning Analysis**

**Objective**

To analyze students’ income and expenses in order to uncover their financial patterns and provide actionable insights for better financial planning and budgeting among university students.

**Tools Used**

* **Excel** – Data cleaning, preparation, and exploratory analysis
* **SQL** – Data exploration, aggregation, and insight generation
* **Python** – Statistical computation and visualization
* **Power BI** – Interactive dashboard and storytelling visualization

**Process Overview**

**Excel (Data Cleaning & Preprocessing)**

* Imported and inspected the raw dataset.
* Removed blank rows, duplicates, and ensured data type consistency.
* Converted the dataset into an Excel table for easier management and visualization.
* Added calculated columns:
  + **Total Expenses**
  + **Saving Rate**
  + **Expense-to-Income Ratio**
* Performed exploratory analysis using PivotTables to visualize average income, total income, and savings trends.

**SQL (Data Exploration & Insight Generation)**

* Verified dataset integrity using row count and distinct count queries.
  + Total rows: **300**
  + Distinct students: **50**
  + Distinct months: **6**
* Checked for missing values and validated column data types.
* Generated key insights:

**Overall Financial Summary**

| **Metric** | **Average Amount (₦)** |
| --- | --- |
| Income | 70,283.51 |
| Expenses | 39,807.21 |
| Savings | 30,828.37 |
| Expense-to-Income Ratio | 60.71% |

**By School Level**

* **100 Level:** Highest average income (₦74,282.87) and savings (₦84,973.23).
* **200 Level:** Highest average expenses (₦40,161.31).
* **500 Level:** Highest expense-to-income ratio (62%).

**By Gender**

* **Females** earned slightly more (₦70,561.35).
* **Males** spent slightly more (₦39,874.15).
* Both genders had similar expense ratios (~61%).

**Monthly Trends**

* **Highest average income:** March (₦72,485.09)
* **Highest average expenses:** May (₦41,089.44)
* **Highest savings:** March (₦32,831.01)
* **Highest expense-to-income ratio:** January (62%)

**Accommodation Insights**

* **Off-campus students** spent more (₦46,434.57).
* **On-campus students** saved more (₦35,372.56).
  + Due to additional rent, utilities, and transportation costs off campus.

**Category Breakdown**

| **Category** | **Average Spend (₦)** |
| --- | --- |
| Feeding | 19,016.26 |
| Transportation | 5,385.85 |
| Rent | 5,550.47 |
| Utilities | 3,976.82 |
| Entertainment | 2,967.98 |
| Miscellaneous | 2,929.08 |

**Top Spenders**

* **Student ID S044** (300-level female) — ₦48,329.07.
* Out of the top 5 spenders: **3 males, 2 females**.

**Python (Data Analysis & Visualization)**

* Performed descriptive statistics for income, expenses, and savings.
* Created visualizations using matplotlib and seaborn:
  + **Bar charts:** Income vs Expenses by gender and level.
  + **Line charts:** Monthly income and savings trends.
  + **Bar plots:** Expense category breakdown.
* Confirmed results consistent with SQL findings.

**Power BI (Dashboarding & Storytelling)**

* Connected the cleaned dataset to Power BI.
* Created **interactive dashboards** showing:
  + Income vs Expenses vs Savings
  + Expense-to-Income Ratio
  + Spending Patterns by Month, Gender, and Level
  + Top Spenders and Expense Categories
* Applied a **neutral professional theme** and added **slicers** for gender, month, and level for user interactivity.

**Key Insights**

* Students spend **around 61%** of their income, saving the remaining **39%**.
* **Off-campus students** spend significantly more due to rent and utilities.
* **100-level students** save the most, while **500-level students** spend the most.
* **Feeding** is the top expense category across all demographics.
* Spending peaks in **May**, suggesting activity-related expenses.

**Recommendations**

1. Encourage students to adopt **budgeting tools** and expense trackers.
2. Promote **financial literacy campaigns** to improve saving habits.
3. Support **on-campus housing options** to help reduce living costs.
4. Encourage **side hustles or part-time work** to increase student income.

**Project Reflection**

Getting into this project, I wanted to understand the financial positions of many university students.  
Using this auto-fictional dataset, I explored how students earn, spend, and save within the school system.

I found fascinating differences between off-campus and on-campus students — off-campus students faced higher expenses due to rent and utilities, while on-campus students were able to save more.  
I also noticed clear discrepancies across levels: 100-level students, being new to the system, had lower spending needs and thus higher savings, while 500-level students, nearing graduation, had higher spending habits.

This project allowed me to dive deep into the financial mindset of students, helping me understand their habits and the ways they can make better financial decisions.  
It also opened my eyes to how data analytics can support financial literacy, planning, and behavior change.