

Programming Project – C++ Personal Expense Tracker

Team Members

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I. Task Description

Student 1 – Daily Expense Management

- Add new expense entries (date, category, amount, note)
- Delete or modify existing expense entries
- View all expenses for a given month

Student 2 – Monthly Reporting

- Calculate total spending by category
- Identify highest single expense
- Create a text-based daily spending chart
- Export monthly expenses to CSV

II. Data Structures Used

Class: Expense

```
int id;  
double amount;  
std::string category;  
int day;  
int month;  
int year;  
std::string note;
```

III. File Structure

File: expenses.txt

Stores daily expenses in the format:

```
<id>;<dd/mm/yyyy>;<category>;<amount>;<note>
```

Example:

```
1;01/06/2025;Food;12.50;Lunch at cafe  
2;02/06/2025;Transport;2.00;Metro ticket  
3;02/06/2025;Groceries;45.30;Supermarket
```

IV. Executables and CLI Interaction

expense_logger.exe – Expense Management

```
./expense_logger.exe add_expense <amount> <category> <day>  
<month> <year> [note]
```

Add a new expense entry.

```
./expense_logger.exe delete_expense <id>
```

Delete an existing expense entry.

```
./expense_logger.exe modify_expense <id> <amount> <category>  
<day> <month> <year> [note]
```

Modify the details of an existing expense.

```
./expense_logger.exe view_all <month> <year>
```

View all expenses for the specified month and year.

expense_report.exe – Reporting & Export

```
./expense_report.exe summary <month> <year>
```

Display total spending, category breakdown, and highest single expense.

```
./expense_report.exe daily_chart <month> <year>
```

Show a text-based bar chart of daily spending.

```
./expense_report.exe top_category <month> <year>
```

Display the category with the highest total spending.

```
./expense_report.exe export_csv <month> <year> <filename>
```

Export all expenses for the specified month and year into a CSV file.