

Step 1: Display the Main Menu

- Display the following options to the user:
 - 1 = Add Income
 - 2 = Add Expense
 - 3 = View Summary Report
 - 4 = Exit
- Prompt the user:
 - "Please type the number of the option you want to choose."
- **If** the user enters anything other than 1, 2, 3, or 4, **then**
 - Display: "Invalid choice. You must enter 1, 2, 3, or 4."
 - **Return** to Step 1.
- **If the user chooses Option 1, go to Step 2 (Add Income).**
- **If the user chooses Option 2, go to Step 3 (Add Expense).**
- **If the user chooses Option 3, go to Step 4 (View Summary Report).**
- **If the user chooses Option 4, go to Step 5 (Exit Program).**

Step 2: Add Income (If User Chooses Option 1)

- Prompt the user:
 - "Enter income amount in dollars. Do not include any symbols (like \$ or commas). For example, type 500 or 1200.75."
- **If** the entered value is not a number **or** less than or equal to zero, **then**
 - Display: "Income must be a positive number greater than 0. Please try again."
 - **Repeat** this step until a valid number is entered.
- Prompt the user:
 - "Choose income category (Salary, Gift, Investment, or Other)."
- **If** the entered category is not one of the listed options, **then**
 - Display: "Invalid category. Please type exactly one of the options: Salary, Gift, Investment, or Other."
 - **Repeat** this step until a valid category is entered.
- **If** the JSON summary file does not exist, **then** create a new file named [program_name]_summary.json in the same folder as the program.
- Open the JSON file and read the current data.
- Add the new income amount to the total for the selected income category.
- Save the updated data back to the JSON file immediately.
- Display: "Income added successfully. Returning to main menu."
- **Return** to Step 1.

Step 3: Add Expense (If User Chooses Option 2)

- Prompt the user:
 - "Enter expense amount in dollars. Do not include any symbols (like \$

or commas). For example, type 35 or 120.99."

- **If** the entered value is not a number **or** less than or equal to zero, **then**
 - Display: "Expense must be a positive number greater than 0. Please try again."
 - **Repeat** this step until a valid number is entered.
- Prompt the user:
 - "Choose expense category (Food, Housing, Transportation, Entertainment, Health, Education, or Other)."
- **If** the entered category is not one of the listed options, **then**
 - Display: "Invalid category. Please type exactly one of the options."
 - **Repeat** this step until a valid category is entered.
- **If** the JSON summary file does not exist, **then** create a new file named [program_name]_summary.json in the same folder as the program.
- Open the JSON file and read the current data.
- Add the new expense amount to the total for the selected expense category.
- Save the updated data back to the JSON file immediately.
- Display: "Expense added successfully. Returning to main menu."
- **Return** to Step 1.

Step 4: View Summary Report (If User Chooses Option 3)

- **If** the JSON summary file does not exist, **then**
 - Display: "No entries exist. Please add at least one entry before viewing a report."
 - **Return** to Step 1.
- Open the JSON file and read all income and expense category data.
- **If** all category totals are zero, **then**
 - Display: "No entries exist. Please add at least one entry before viewing a report."
 - **Return** to Step 1.
- Calculate the following values:
 - Total Income = sum of all income category totals.
 - Total Expenses = sum of all expense category totals.
 - Net Balance = Total Income – Total Expenses.
- Display the formatted summary report showing:
 - Each income category and its total.
 - Each expense category and its total.
 - The Total Income, Total Expenses, and Net Balance at the bottom.
- Display: "Returning to main menu."
- **Return** to Step 1.

Step 5: Exit Program (If User Chooses Option 4)

- Ensure all income and expense data are saved to the JSON summary file.
- Display: "Program ended. Thank you for using the Personal Finance Tracker."
- Stop the program.

Step 6: Program Loop and Decision Structure

- The program runs inside a continuous loop that repeatedly executes **Steps 1 through 5** until the user selects Option 4 (Exit).
- Some boolean and conditional logic points include:
 - If the user's menu choice is invalid.
 - If the entered income or expense amount is invalid.
 - If the selected category is invalid.
 - If there are no entries in the file.