C++ Program Assignment2: Library Book Management

Here's an intermediate-level C++ programming assignment that incorporates the specified topics. The assignment includes clear instructions, objectives, and a sample problem for students to solve.

Objective:

The objective of this assignment is to enhance your understanding of input and output streams in C++, as well as to practice using predefined functions, manipulators, and debugging techniques.

Assignment Instructions

Part 1: Program Design

Design a C++ program that performs the following tasks:

1. Collect Book Information: The program should prompt the user to enter the title of a book, the author's name, and the price of the book.

2. Display Book Information: After the user inputs the information, display the details formatted in a neat manner.

Part 2: Implementation Requirements

Your program must fulfill the following requirements:

1. input Streams:

   - Use standard input streams to read data from the user.

   - Implement the `get()`, `ignore()`, `putback()`, and `peek()` functions to handle input correctly.

2. Output Streams:

   - Use standard output streams to display data to the user.

   - Use manipulators to format the output (e.g., set width, precision).

3. String Operations:

   - Use the `string` data type to store the book title and author's name.

- Ensure that the input of the title and author can include spaces.

- If an invalid input is detected, clear the input stream and prompt the user to re-enter the data.

Part 3: Submission Guidelines

- Ensure your program is well-commented for clarity.

- Submit the C++ source code file and a screenshot of your output.

Evaluation Criteria

- Correct implementation of input and output streams (30%)

- Proper use of string operations and manipulators (30%)

- Error handling and debugging (20%)

- Code organization and documentation (20%)

Sample input and output:

```
Enter book title: Lord of the Flies
Enter author's name: William Goldling
Enter book price: $1000


----- Book Details -----
Title:          ord of the Flies
Author:         William Goldling
Price:          $1000.00

```

```
Enter book title: lord
Enter author's name: william
Enter book price: $jaja
Invalid input. Please enter the correct data type.
```