

Consider a scenario where you are designing a simple library management system. You are required to implement a base class **Book** and derive two classes **Fiction** and **NonFiction** from it. Each book has a title, author, and year of publication. **Fiction** books additionally have a genre (e.g., Mystery, Science Fiction) while **NonFiction** books have a subject (e.g., History, Science).

Write a program that allows the user to:

1. Enter details of up to 10 books (either fiction or nonfiction) via the console.
2. Display all entered books along with their details.
3. Save these book details to a file named **library.txt**.
4. Load book details from the file **library.txt** and display them.

Your program should use arrays to store book objects and utilize loops for inputting and displaying the data. Implement proper class design with inheritance and virtual functions to handle the different book types efficiently.

Additional Requirements:

- Use an array of pointers to the **Book** class to store fiction and nonfiction book objects.
- Implement a virtual function **displayInfo()** in the **Book** class which is overridden in the **Fiction** and **NonFiction** derived classes to display specific details.
- Use loops for inputting book details and displaying them.
- Implement file handling to save and load book details to/from **library.txt**.