# Bonus Project

Mini Library Manager   
  
Topics used: input, variables, conditionals, nested if, switch, while/do-while/for loops, strings (.equalsIgnoreCase, .contains, .toLowerCase, .length), printf formatting, ternary operator, simple arrays, basic casting.  
  
Goal: Build a small console app to manage a list of books.  
  
Requirements  
1) Login: The password is "java123". Allow up to 3 attempts, otherwise exit.  
2) Menu: After login, show this menu repeatedly until Exit:  
 1. Add book  
 2. List books  
 3. Search books  
 4. Borrow/Return  
 5. Stats  
 6. Exit  
3) Storage (arrays): Use fixed-size arrays (e.g., 50) to store for each book: title (String), author (String), year (int), available (boolean).  
4) Add book (validation): Ask title, author, year (1900–2100). If out of range, ask again (do-while). Treat empty title/author as invalid.  
5) List books (printf): Print a table with aligned columns:  
 ID Title Author Year Status  
 0 Clean Code Robert C. Martin 2008 Available

Use ternary to print "Available" or "Borrowed".  
6) Search (strings): Ask a keyword; show books where the title OR author contains the keyword (case-insensitive). If none, print "No matches".  
7) Borrow/Return (conditions): Ask ID, check bounds and if a book exists. If available → borrow it; if borrowed → return it. Print colored status messages using ANSI (optional).  
8) Stats (loops/math): Print total books, total available, total borrowed, oldest year, newest year, and average year (both exact and as int via casting).  
9) Exit: End the program when the user selects 6.  
  
Bonus ideas  
- Prevent duplicate titles by warning the user.  
- On List, truncate very long titles to 26 chars and append "...".  
- On Add, auto-capitalize the first letter of title and author.  
- On Borrow, show due date hint: "Return within 14 days!".