

# Python Project 1 Proposal

## Library Management System

### Overview:

The idea is to build an interactive system for a local library. The Library Management System is designed provides a solution for libraries to organize books and for administrators to maintain user accounts, search, borrow, and return books. It has a database for both books and user accounts. Libraries can register new books and purge books from this database. Likewise, administrators can register new account and purge old accounts. In the same time, administrators can help readers search books by typing book ids and names. There will be four major classes explained below.

### Class:

Account. Each reader will have his or her own account to store user-specific information.

- Attributes:
  - o Account\_ID, String
  - o Account\_Name, String
  - o Account\_History, list of String
- Methods:
  - o Get\_account\_history
  - o Update\_account\_history(datetime, book, type)

Book. Each book will have the following attributes so as to identify the books.

- Attributes:
  - o Book\_ID, String
  - o Book\_Name, String
  - o Issue\_Date, Date
  - o Author, String
  - o Status, Boolean whether book is borrowed

Library. This is the place to store books.

- Attributes:
  - o Library\_Name, String
  - o Library\_ID, String
- Methods:
  - o register\_book( Book\_ID, Book\_Name, ...) persist new book in book table
  - o purge\_book(Book\_ID, Book\_Name) to remove book from the library
  - o search\_book\_by\_ID( Book\_ID) return Book Information
  - o search\_book\_by\_key\_words( Book\_Name, Issue\_Date, ...) return list of Book that might matched

Admin. This is the person to main the system and manage the library activities.

- Methods:

- register\_account(Account\_ID, Account\_Name, ...) persist new account in account table
- purge\_account(Account\_ID, Account\_Name, ...) to remove account from the database
- get\_account\_name(Account\_ID) return Account\_Name
- set\_account\_name(Account\_ID)
- get\_account\_history(Account\_ID) return Account\_History
- borrow\_book( Account\_ID, Book\_ID) update book status and account history
- return\_book( Account\_ID, Book\_ID) update book status and account history
- update\_history