Login :

```
login (userID, password) {

        u = User.find(userID)

        if (u != null && u.password == password){

                upd = u.sessions.update()

                If ( upd)

                        message("Successful")

                Else

                        message("Unsuccessful")

        }

        else

                message("UnSuccessful")

}
```

Logout :

```
logout (userID) {

        u = User.find(userID)

        if (u != null){

                upd = u.sessions.update()

                If ( upd)

                        message("Successful")

                Else

                        message("Unsuccessful")

        }
```

```
        else

                message("UnSuccessful")

}
```

Search Book :

```
searchBook ( memberID , title ){

        m = Member.find(mamberID)

        if ( m != null ){

                bookList = Books.Search(title)

                if ( bookList != null)

                        Send(bookList)

                else

                        Send(null)

        }

        else

                Send(null)

}
```

Borrow Book :

```
borrowBook ( memberID , bookID){

        m = Member.find(memberID)

        b = Books.find(bookID)

        if ( m != null && b != null ){

                br = Borrowed.insert( memberID , bookID , getTime())

                if  (br )
```

```
                    message("Successful")
        Else
                message("UnSuccessful")
    }
    else
            message("UnSuccessful")
}
```

Extend borrow time :

```
extendBorrowTime (memberID, bookID, extendTime){

    m = Member.find(memberID)

    b = Books.find(bookID)

    r = Borrowd.find(memberID, bookID)

    if ( m != null && b != null && r != null ){

            br = Borrowed.setTime( memberID , bookID ,extendTime )

            if  (br )

                    message("Successful")

            else

                    message("UnSuccessful")

    }

    else

            message("UnSuccessful")

}
```

Extend member time :

```
extendMemberTime (memberID, extendTime){

        m = Member.find(memberID)

        if ( m != null  ){

                ext = Member.setExpireTime( memberID ,extendTime )

                if  (ext )

                        message("Successful")

                else

                        message("UnSuccessful")

        }

        else

                message("UnSuccessful")

}
```

Return Book :

```
returnBook ( memberID , bookID){

        m = Member.find(memberID)

        b = Books.find(bookID)

        r = Borrowd.find(memberID, bookID)

        if ( m != null && b != null  && r != null){

                br = Borrowed.delete( memberID , bookID)

                if  (br )

                        message("Successful")

                else

                        message("UnSuccessful")
```

```
        }

        else

                message("UnSuccessful")

}
```

DeleteManager:

```
deleteManager(managerID){

        mng = Manager.find(managerID)

        if (mng != null){

                del = Manager.delete(managerID)

                If (del)

                        message("Successful")

                Else

                        message("UnSuccessful")

        }

        else

                message("UnSuccessful")

}
```

CreateManager:

```
createManager(managerID, managerName) {

        Status = Manager.insert(managerID , managerName)

        if (status == 1){

                message("Successful")

        }
```

```
        else

                message("UnSuccessful")

}
```

AddLibrarian:

```
addLibrarian(MngID, LID, name, pass, Email ) {

        mng  = User.get(MngID)

        If (mng.password != pass)

                message("Unsuccessful")

        else{

                Librarian.insert(LID , Name , Email);

                message("Successful")

        }

}
```

RemoveLibrarian:

```
removeLibrarian(MngID, LID ) {

        lbr  = Librarian.get(LID)

        Mng = Manager.get(MngID)

        If (Mng != null && lbr != null)

                Librarian.erase(LID)

                message("Successful")

        else

                message("UnSuccessful")
```

```
}
```

Add Book:

```
addBook(BID, LID, Bname, BAuthor, BPub ) {

        lib  = Librarian.find(LID)

        If (lib != null){

                bi = Book.insert(BID, Bname, BAuthor, BPub )

                if ( bi )

                        message("Successful")

                else

                        message("UnSuccessful")

        }

        message("UnSuccessful")

}
```

Delete Book:

```
deleteBook(BID, LID ) {

        lib  = Librarian.find(LID)

        If (lib != null){

                bi = Book.remove(BID )

                if ( bi )

                        message("UnSuccessful")

                else

                        message("UnSuccessful")

        }
```

else

message("UnSuccessful")

}

DeleteMember:

deleteMember(MID, LID) {

If (Member.find(MID) != null && Librarian.find(LID) != null){

Member.delete(MID)

message("Successful")

}

else

message("UnSuccessful")

}

AddMember:

addLibrarian(MID, LID, name, pass, Email) {

lib = Librarian.find(LID)

if (lib != null){

Member.insert(MID , Name , Email);

message("Successful")

}

else

message("UnSuccessful")

}