**DESIGN :**

we design a line where the user can keep track in which branch or function he/she is.

**MANAGE BOOK :**

**add book error encounter :**

must be unable to add a book that have a same Title and Author but different ID :

exp invalid to add:

**Book 1:**

**id :** 123

**Title :** How to cook hotgog

Author: jungcook

**Book 2:**

**id :** 321

**name :** How to cook hotgog

**email:** Jungcook

**why ? :**

that considered as one book only because of the same Title and Author

if the book have a same Name thats created by the same Author but different ID

theres a possibility that one of the book is version 2 of the book,

so the other name mas have "v2" to be consider as different Book.

**exp valid to add:**

**book 1:**

**id :** 123

**Title :** How to cook hotgog

**Author:** Jungcook

**book 2:**

**id :** 321

**Title :** How to cook hotgog v2

**Author:** Jungcook

**why ? :**

because of the "v2" in the title thats why its considered as different book.

**search book error encounter :**

cant search a book when the input is not the same with Upper Case or Upper Case detail of a book :

**book Name Detail :** Name OF The Book

**search input :**  name of The BOOK

**result :**  the book Not found

**input error encounter :**

when the input have a valid line, the program proccess the valid line in the next function :

**input ID :** 1234asdw

the program will devide the input in to Two (1234) (asdw)

the (1234) will be valid in the ID

and the next line will be input at the next fuction

**updating Books error encounter :**

same in (**adding error encounter**)

unable to update new Book Title and new Book Author that have a already exist

detail in

Book list.

**MANAGE PATRONS :**

**add patron error encounter :**

same in the (add book error), must be unable to add a patron that have a same

Name and Email but different id:

**exp invalid to add:**

**person 1:**

**id :** 123

**name :** David Dela Cruz

**email:** david@gmail.com

**person 2:**

**id :** 321

**name :** David Dela Cruz

**email:** david@gmail.com

**Why ? :**

that consider as one person only because of the same Name and Email

**exp valid to add:**

**person 1:**

**id :** 123

**name :** David Dela Cruz

**email:** david@gmail.com

**person 2:**

**id :** 321

**name :** David Dela Cruz

**email:** david.01@gmail.com

**Why ? :**

there's have a possibility that is a different person, because of the different email

address

**search patrons error encounter :**

same in (**search Books error encounter**)

can't search a Patrons when the input is not the same with Upper Case or Upper Case detail of a Patrons.

**input error encounter :**

same in (**input error encounter in Books**)

When the input has a valid line the program process the valid line in the next function.

**updating patrons error encounter :**

same in (**adding error encounter**)

unable to update new Patrons Name and new Patrons Email that have a already exist detail in patrons list.

**MANAGE CHECK-OUT AND RETURN :**

**return book error encounter :**

when the Program start at the first time, in return, books is

continuing returning a book even the book list is empty

**LOGIN SETTING :**

**password error encounter :**

in the first run of the program we set a default password, the error is, user doesn't know what is the default password.

so we fit as in the first run of the program, user will provide a default password