Assignment-4

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U1CSE17315

1) Package name and directory structure are closely related. For example if a package name is Collages staff cse, then there are 3 directions, Collage, staff and cse such that cse is present in staff and staff is present in collage. The idea is to make sure that classes are easy to locate.

2) To put a class into a package at the first line of code

Define package P1
create a class C1
Define a ~~class~~ method M1
which prints a line
defining the main method.
creating an object of class C1
calling method M1

3) A like a class an interface can have methods and variables, but the methods declared in an interface are by default abstract only method signature, no body)

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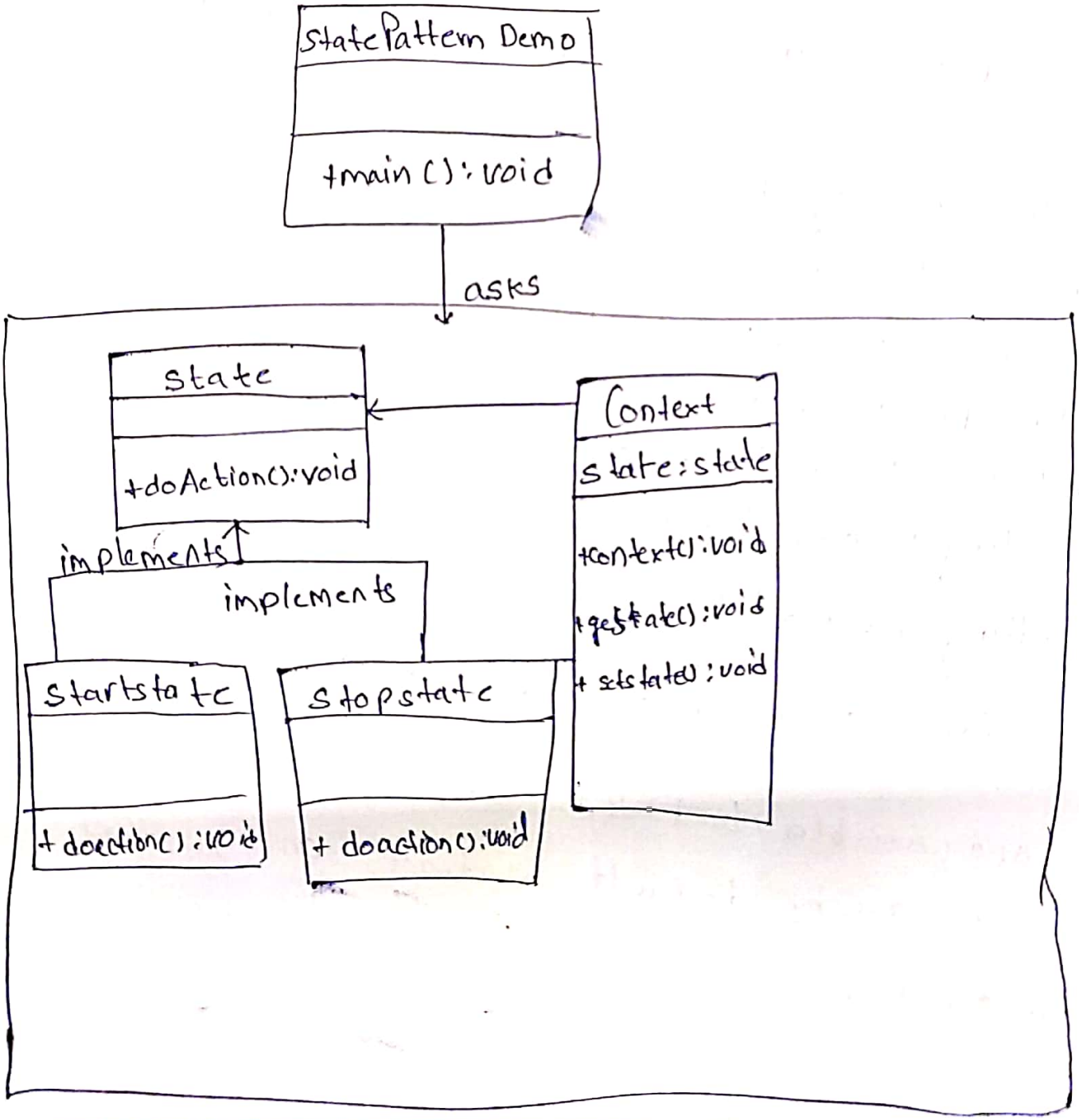
* state is a behavioral design pattern that allows an object to change the behavior when its internal state changes.

Implementation:-

we are going to create a state interface defining an action and Concerete state classes implementing the state interface context is a class which carries a state.



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Create context class

Context.Java

```
Public class Context {

    Private state state;

        Public context (){

            State = null ;

        }

    Public void set state (state state) {

        This.satate =state;

    }

    Public state get state (){

        return state;

    }

}
```

use the context to see change in Behavior when the state changes

statepatter Demo Java

```
Public class state pattern Demo{
Public static void main (string args []) {
Context context =new context () ;
start state start state =new start state();
start state. do Action (context);
```

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```
System.out.println(context.getState().toString());
StopState doAction(context)
System.out.println(context.getState().toString());
}
}
```

5) An interface can extend another interface in the same way that a class can extend another class. The extend keyword is used to extend an interface and the child interface inherits the methods of the parent interface.

6) The implementation of these methods has to be provided in a separate class. So, if a new method is to be added in an interface, then its implementation code has to be provided in the class implementing the same interface. To overcome the issue Java has introduced the concept of default methods which allow the interface to have methods with the implementation without affecting the class that implement the interface.

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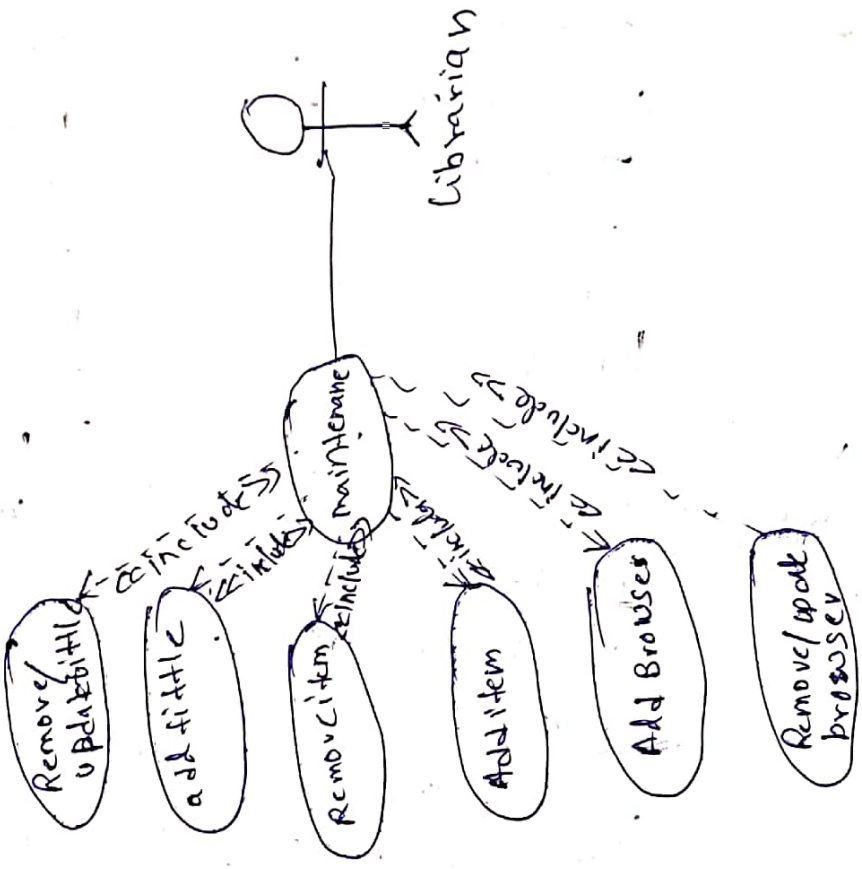
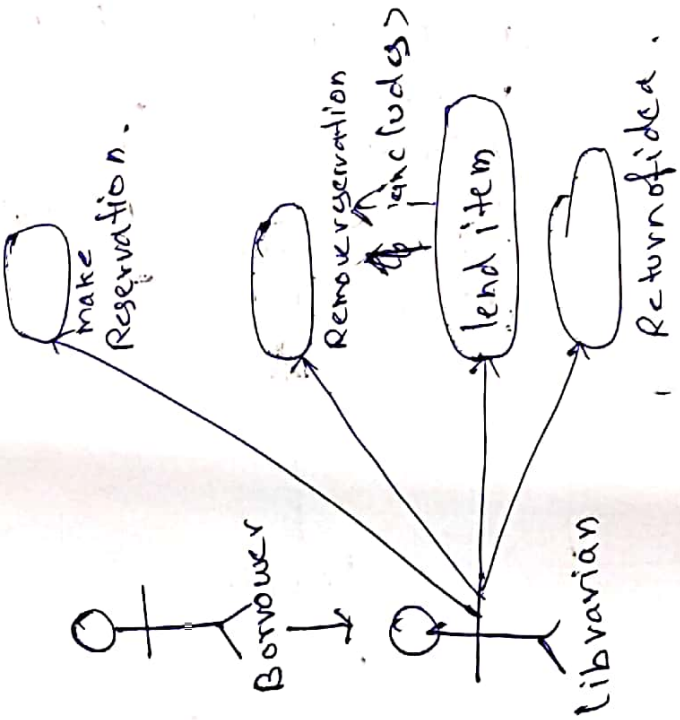
7)

UML Diagram

Libarary management system

→ use case diagram





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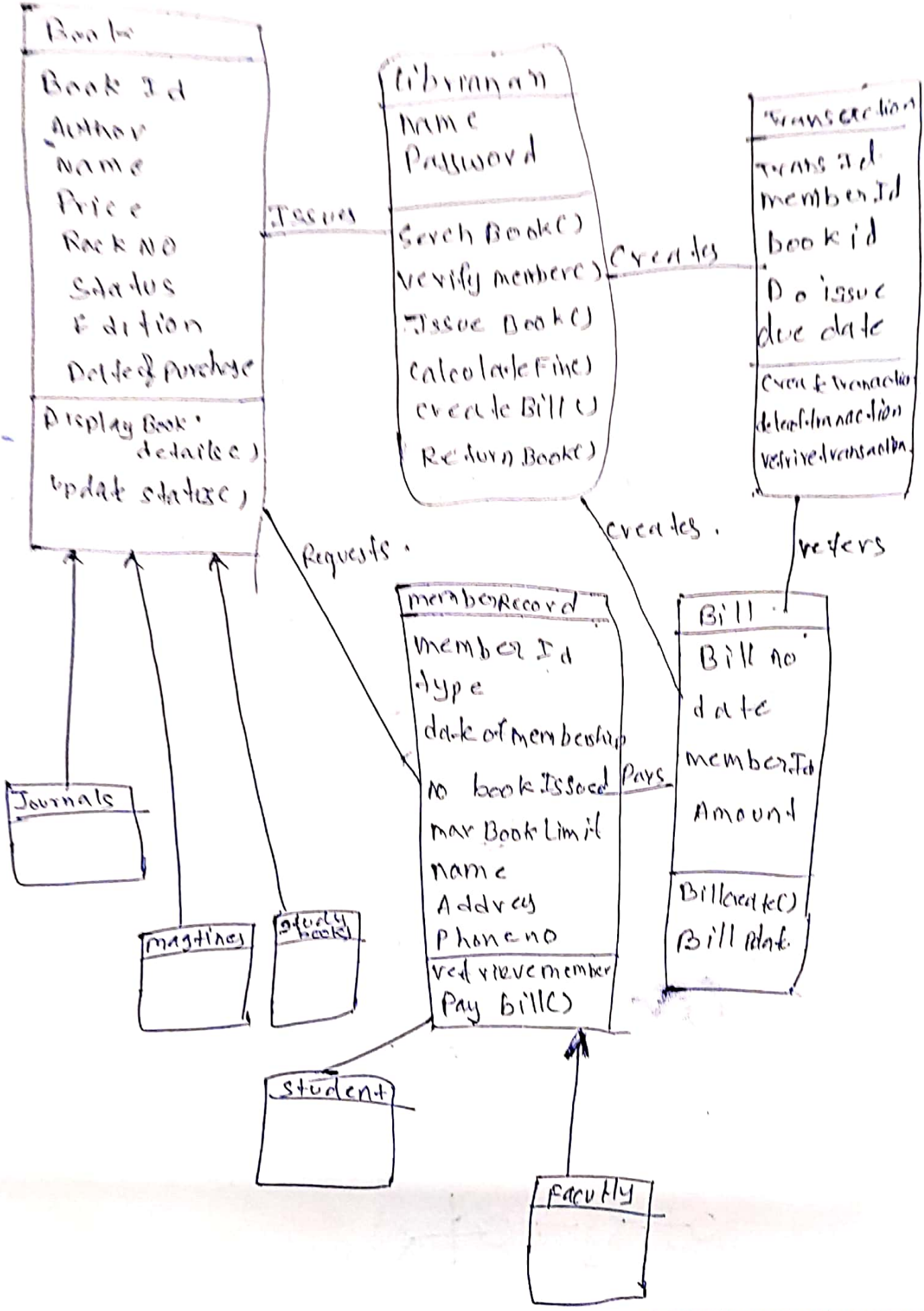
Class diagram



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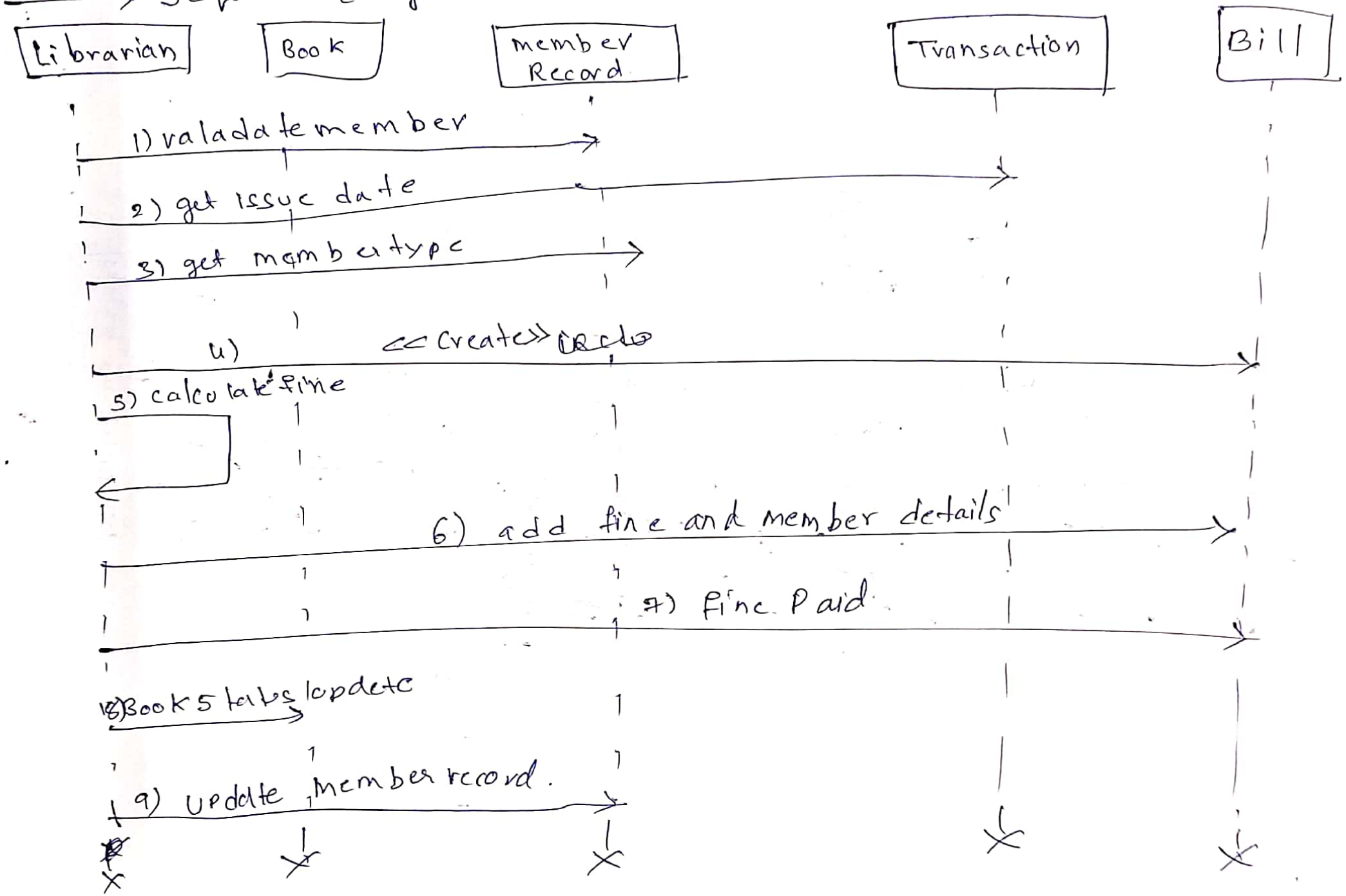
→ Sequence diagram



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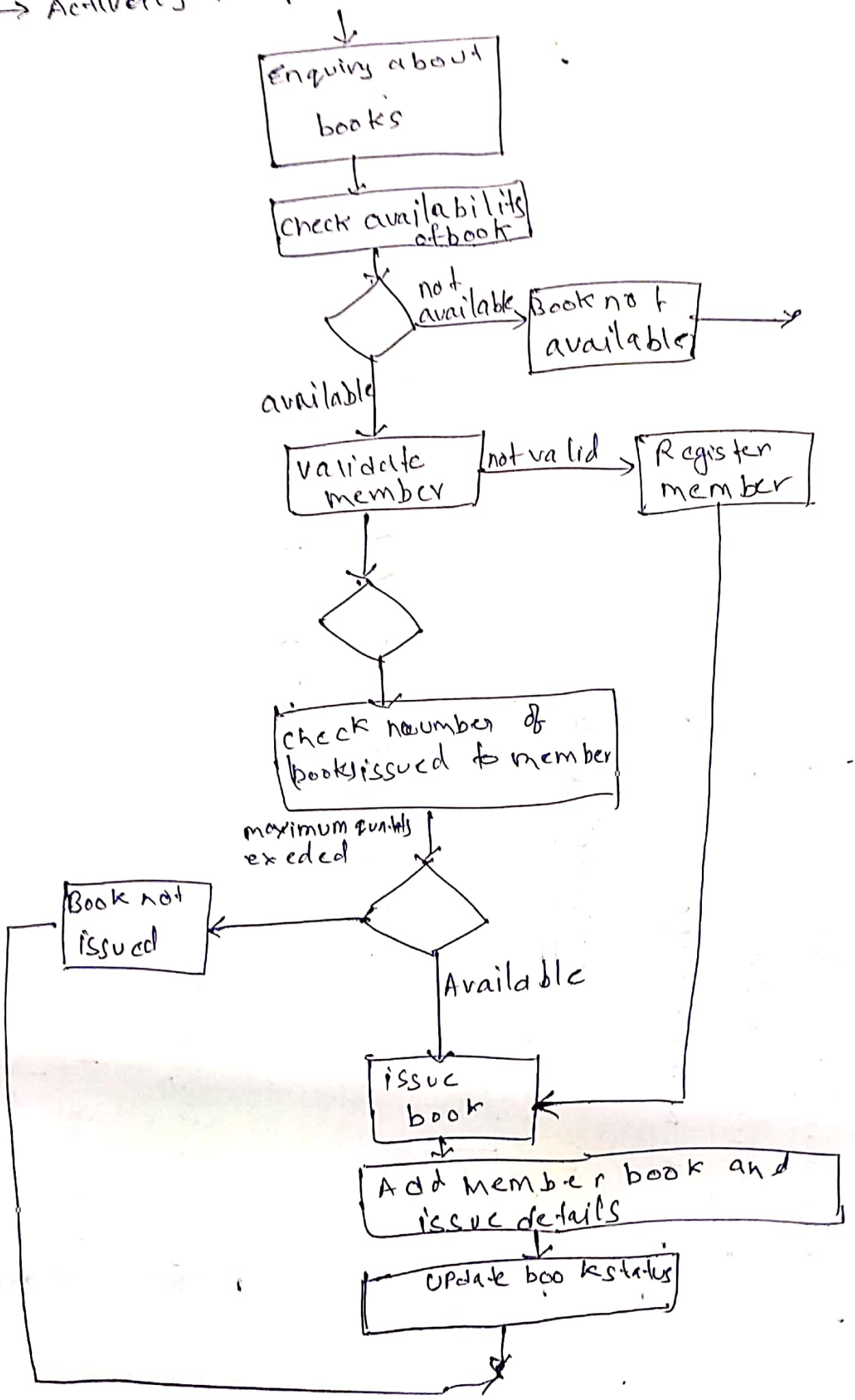
→ Activity Diagram



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