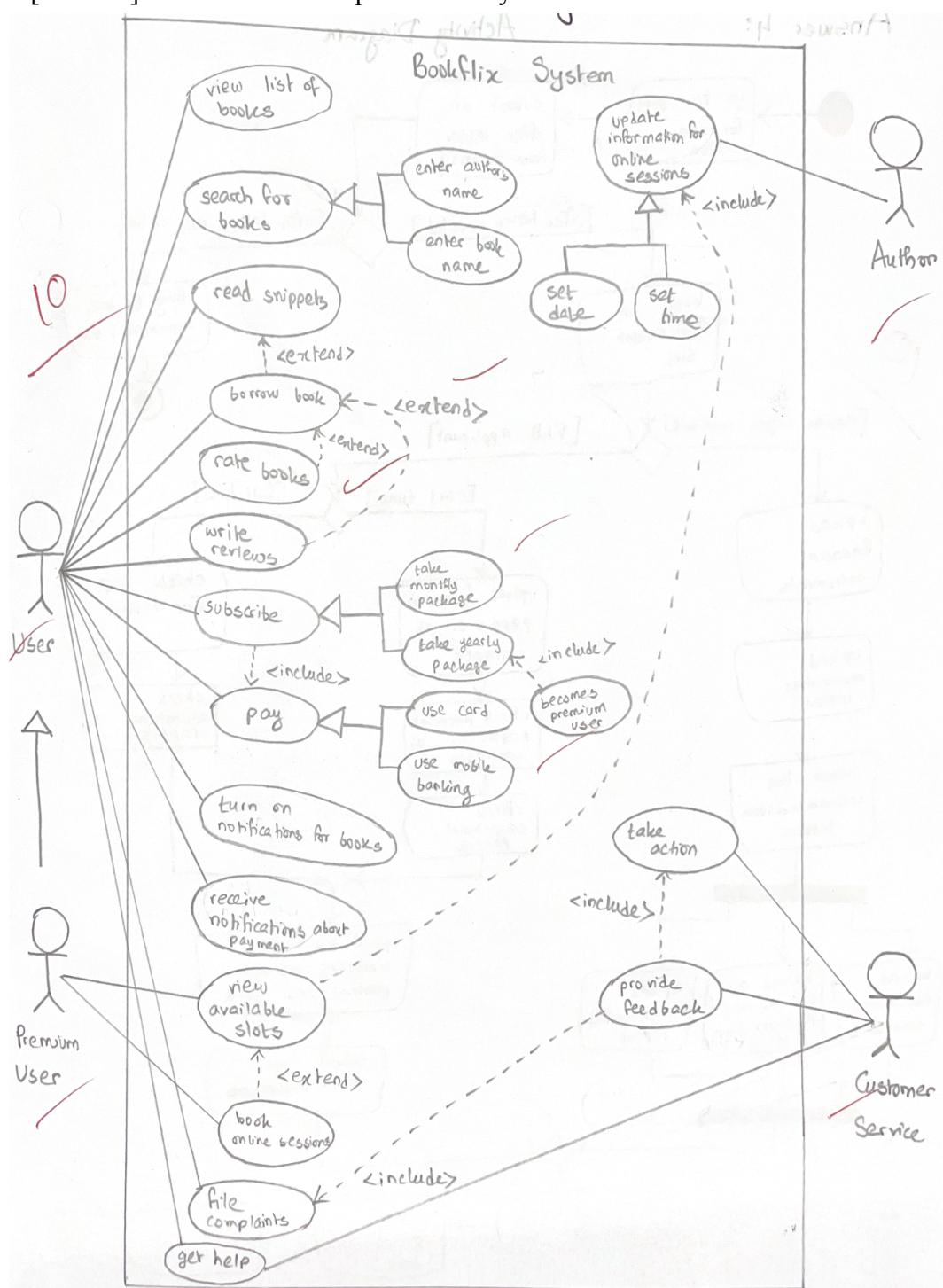


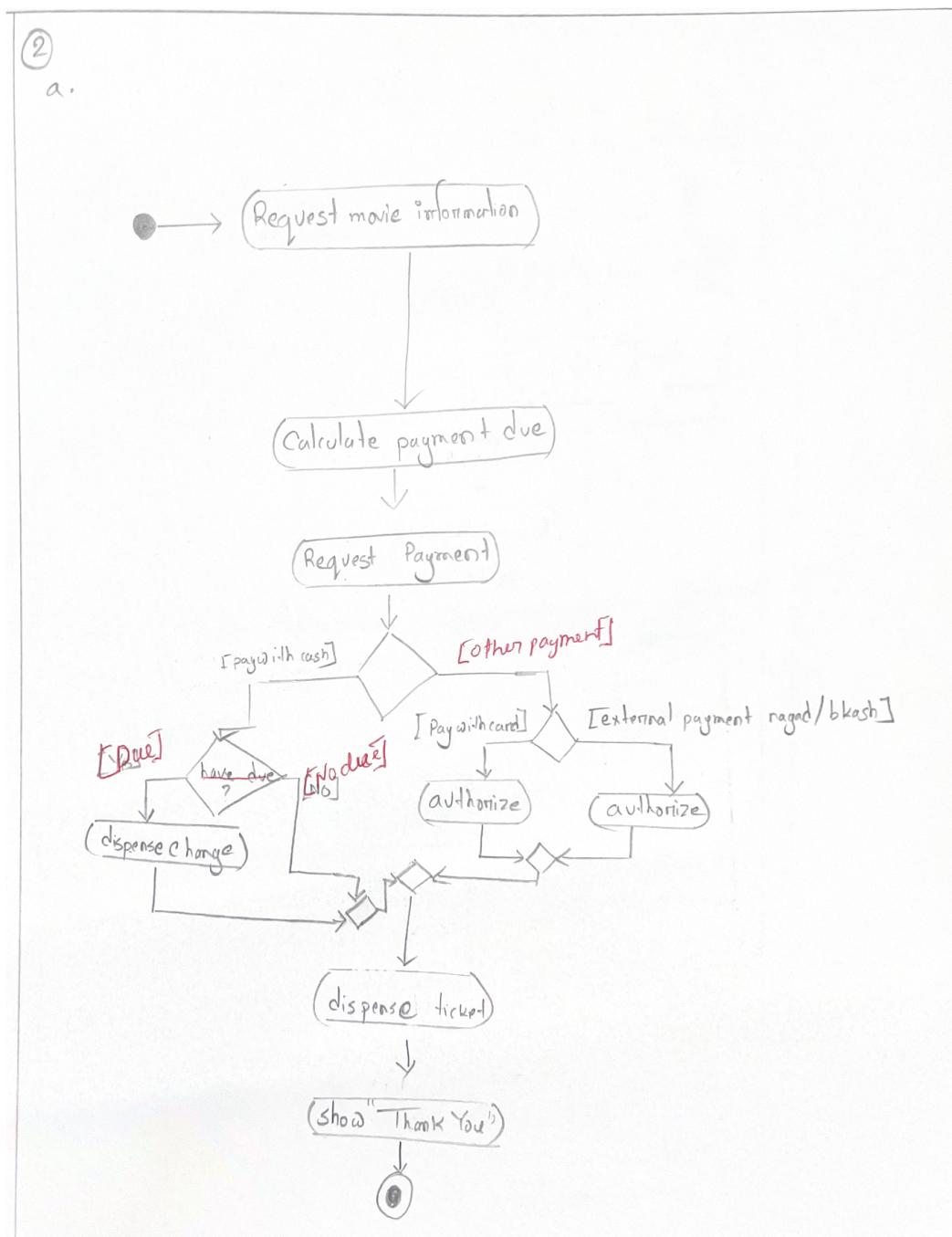
1. Bookflix is an online book borrowing system. In this system, a user can view a list of books that are available for borrowing. They have to search for the books by author or book name first. They can also read snippets before borrowing a book. The users can rate the books and also write reviews about the books they borrow. This system has two types of subscription service: monthly and yearly. There are two types of payment methods in this system: mobile banking and card. A user will be upgraded to a premium user, if he/she avails the yearly package. Premium users can view available slots to book for online sessions with the book authors. The authors will set the date and time of the online sessions. The user will receive notification about best-selling books that are available. Users can turn on notifications for their desired books to know their availability. They will also get a notification about the due payments. Customer service will be available for the users to get help and file complaints. The customer service will provide feedback and take necessary actions upon the complaints.

- [8 marks] Design a use case diagram based on the above scenario.
- [2 marks] Write down descriptions for any two use cases.



2. Activity is started by Commuter actor who needs to buy a ticket. Ticket generating screen will request movie information from the Commuter. This information will include movie name, hall name, row number, and seat number. Based on the provided information, the ticket vending machine will calculate payment due and request payment options. Those options include payment by cash, or by credit or debit card or by external payment system such as bKash or Nagad. If payment by card was selected by Commuter, another actor, Bank will participate in the activity by authorizing the payment. If payment through an external payment gateway system is selected, then that particular system (bKash or Nagad) will participate in the activity by authorizing the payment transaction. After payment is complete, the ticket is dispensed to the Commuter. Cash payment might result in some change due, so the change is dispensed to the Commuter in this case. Ticket vending machine will show a “Thank You” screen at the end of the activity.

- [5 marks] Draw a UML activity diagram based on the above scenario.
- [5 marks] Draw a UML activity diagram with swimlanes based on the above scenario.



b.

