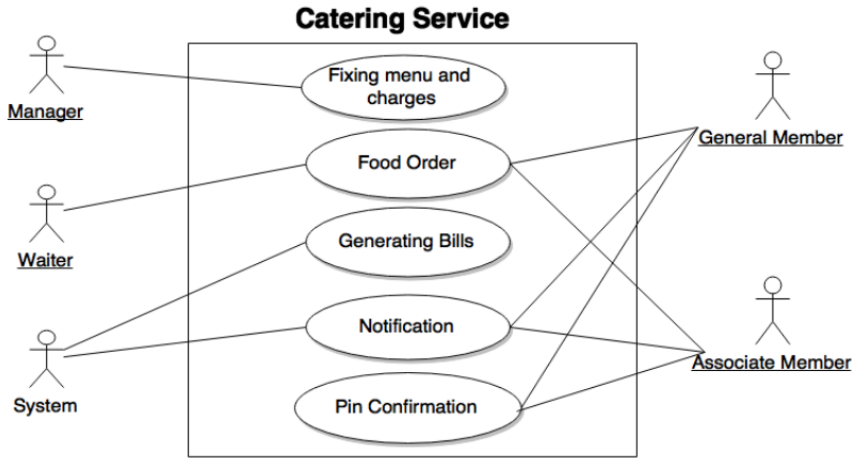
Sample 1

Mr. Ben is preparing an app for a catering service. There, the manager will be able to fix the menu and the prices of the food items. When a member orders the food from the app, the waiters will take the order. The system will generate the bill based on the order amount and prices and notify the members. The system will also generate an OTP (pin) and send it to the members. The members will provide the pins to confirm the order after checking the final food amounts, items, and total bill from the notification.



The above figure is the use case of the above system. This will help to understand the process easily.

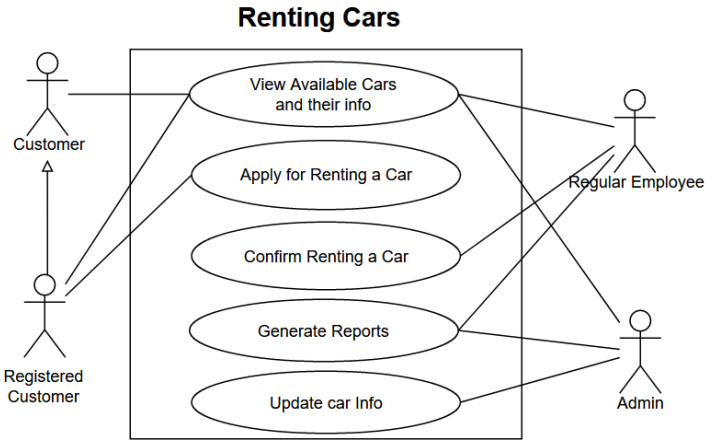
1. Now, construct a swimlane diagram based on the above scenario and use case. (CO2, C4, marks: 05)

Mr. Ben is working on an online car rental system. Here, the customers can check the available cars as a guest. They can view the car model, car type, car seats, number plates, and picture of it. For renting a car they must create an account using a phone number and password. Afterward, they will need to provide their name and address for the system. The employees will authenticate using email IDs and passwords. They can also view the rental cars, check the rented cars list and details, and generate reports. Only the admins can update car info or delete any car from the list. Regular employees can just confirm the renting request and update the rented car lists.

2. Create the UML class diagram of the above system. (CO2, C4, marks: 05)

Sample 2

Mr. Ben is working on an online car rental system. Here, the customers can check the available cars and the car info as a guest. For renting a car they must create an account using a phone number and password. The employees can also view the rental cars, check the rented cars list and details, and generate reports. Only the admins can update car info or delete any car from the list. Regular employees can just confirm the renting request.



The above figure is the use case of the above system. This will help to understand the process easily.

1. Now, construct a swimlane diagram based on the above scenario and use case. (CO2, C4, marks: 05)

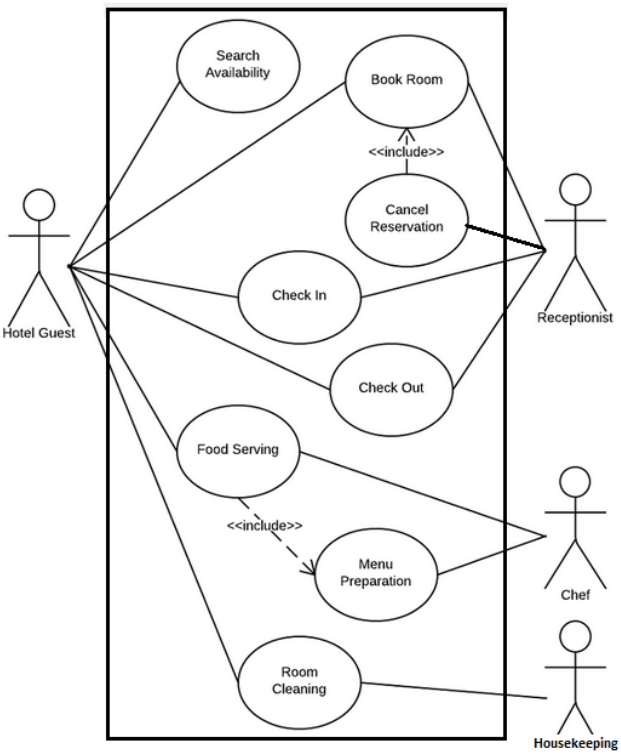
Mr. Ben is preparing an app for an online catering service. There, the customers can check the available food item as a guest. They can view the name, price, additional toppings, and picture of it. Each menu must have an id, details, discount, and a list of dishes. Every dish will have an id, name, and price. For ordering food, they must create an account using a phone number and password. Afterward, they will need to provide their name and address for the delivery system. After confirmation, the order will have the list of dishes, customer id, total bills, and delivery state. The admin will authenticate using email IDs and passwords. They can also view the items, check details, update the details and generate reports.

2. Create the UML class diagram of the above system. (CO2, C4, marks: 05)

Sample 3

Mr. Park is preparing a website for a four-star hotel. On the website, guest can search for an available room and check its information and costs. They can book the room using their phone number and OTP sent to their phone number. Receptionist can also check the list of booked and available rooms and can confirm a booking on behalf of a guest and can cancel the reservation. When the guest will check in or check out to their booked room the receptionist will get notified. The chef will enter a fixed menu for everyday and the guest may order that to their room. The guests can request for the cleaning of the room. The housekeeping will get notification for the request.

The attached figure is the use case of the above system. This will help to understand the process easily.



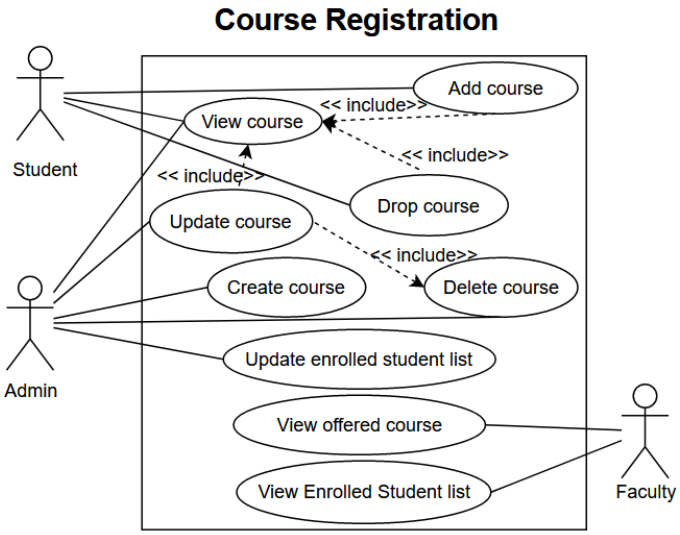
1. Now, construct a swimlane diagram based on the above scenario and use case. (CO2, C4, marks: 05)

Mr. Park is working on a course management system of a university. In the system, the admin, officers, students, and faculties can log in using email id and password. The system also stores their name, date of birth, NID, address and phone number. For the employees like admin, officers and faculties, the system also stores the designation, salary and as for students, it stores completed credits, cgpa and parents phone number. The admins can create, update, or delete any course. The faculties can check the offered course and enrolled students. Every course has an id, name, credit amount, cost, concerned faculty and prerequisite course name. The students can check the available course list, enroll themselves for courses or drops from an enrolled course. The admins can also change the list of enrolled students for a definite course.

2. Create the UML class diagram of the above system. (CO2, C4, marks: 05)

Sample 4

Mr. Park is working on a course management system of a university. In the system, the admin can create a course providing the appropriate info. They can also view any course from the list and update or delete any existing course. The faculties can check the offered course and the list of the enrolled students. The students can check the available course list along with the details. Based on those, if they fulfill the requirements, they can enroll themselves for courses. Within a time, limitation, they can drop an enrolled course too. The admins can also change the list of enrolled students for a definite course.
The attached figure is the use case of the above system. This will help to understand the process easily.



1. Now, construct a swimlane diagram based on the above scenario and use case. (CO2, C4, marks: 05)

Mr. Park is preparing a website for a four-star hotel. On the website, guest can search for an available room and check its information and costs. They can book the room using their name, NID, phone number, address. The hotel will have a list of rooms, booked rooms' ids, available rooms' ids, list of employees, daily check ins and check outs. A room will have an id, type, cost, direction and booking status. Receptionist can also confirm a booking on behalf of a guest and can cancel the reservation. A receptionist needs to log in using email id and password. Besides, the system will store the name, NID, address, phone number, educational qualification, and date of birth of the employees. When the guest will check in or check out to their booked room the receptionist will get notified. The guests can also order for food and chef will take care of it. The guests can request for the cleaning of the room. The housekeeping will get notification for the request.

2. Create the UML class diagram of the above system. (CO2, C4, marks: 05)