UML Practical file

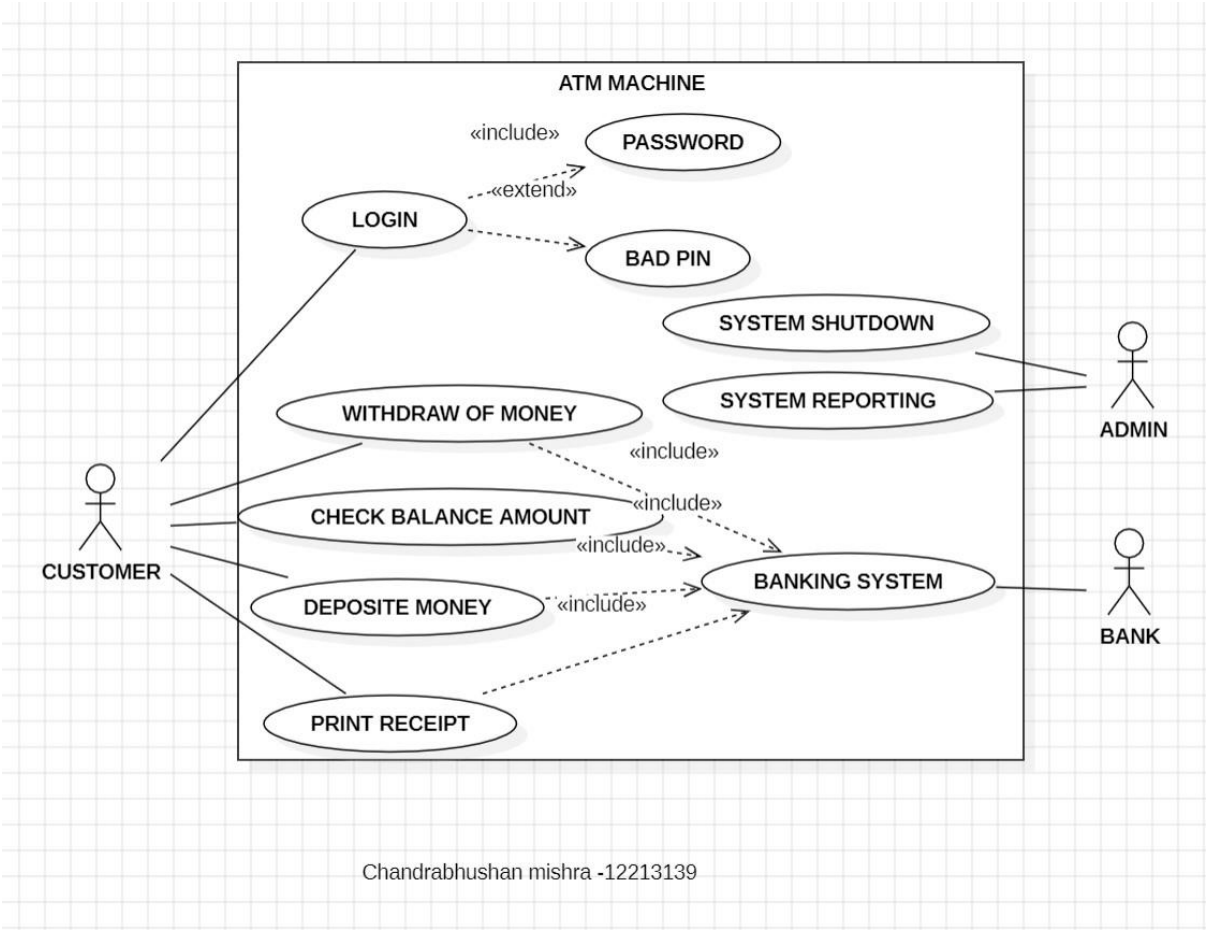
Chandrabhushan Mishra

12213139 , IT (B)-07

Experiment 1: Use-case Diagram

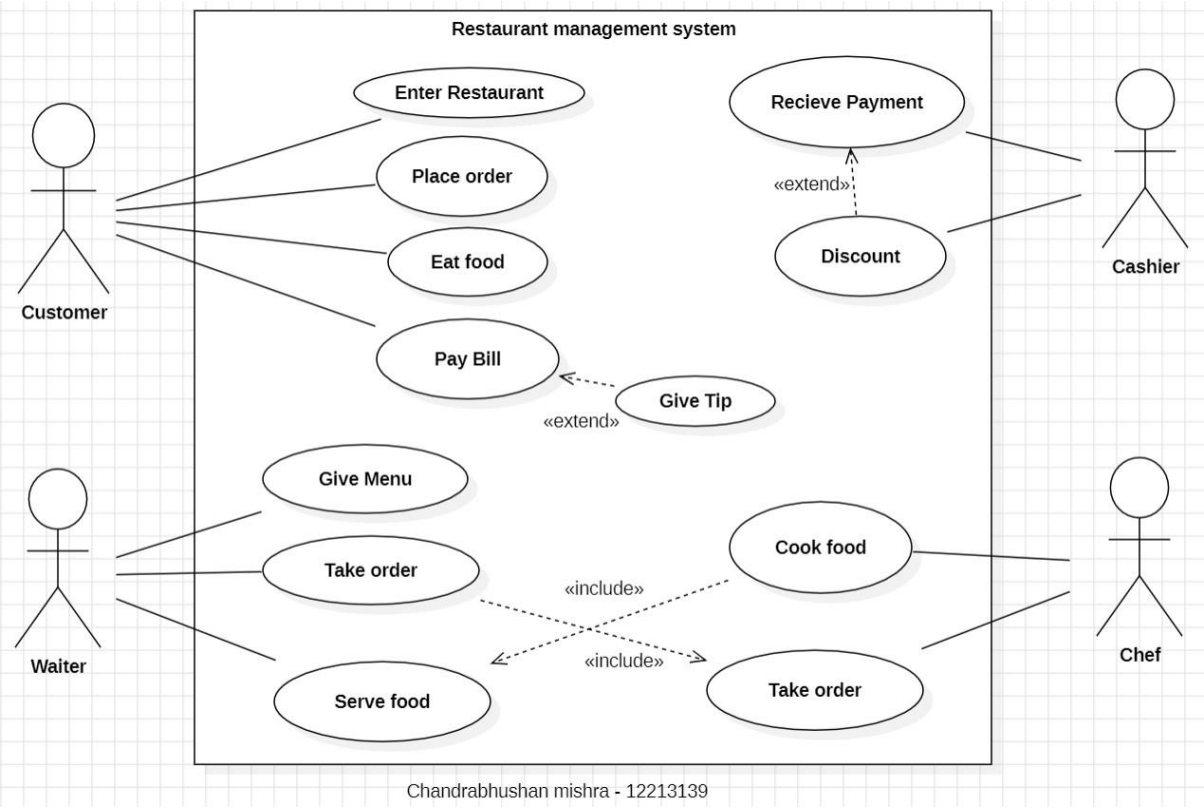
1. An ATM has an administrator who manages the system maintenance. The maintenance table includes system reporting and system shut down. Bank customer will login to the system and may do transaction of withdrawing money, check account balance, deposit money and print receipt which is governed by bank but if customer log in with wrong pin no. bad pin message will be prompted. Draw the use case diagram for above scenario.

Ans:



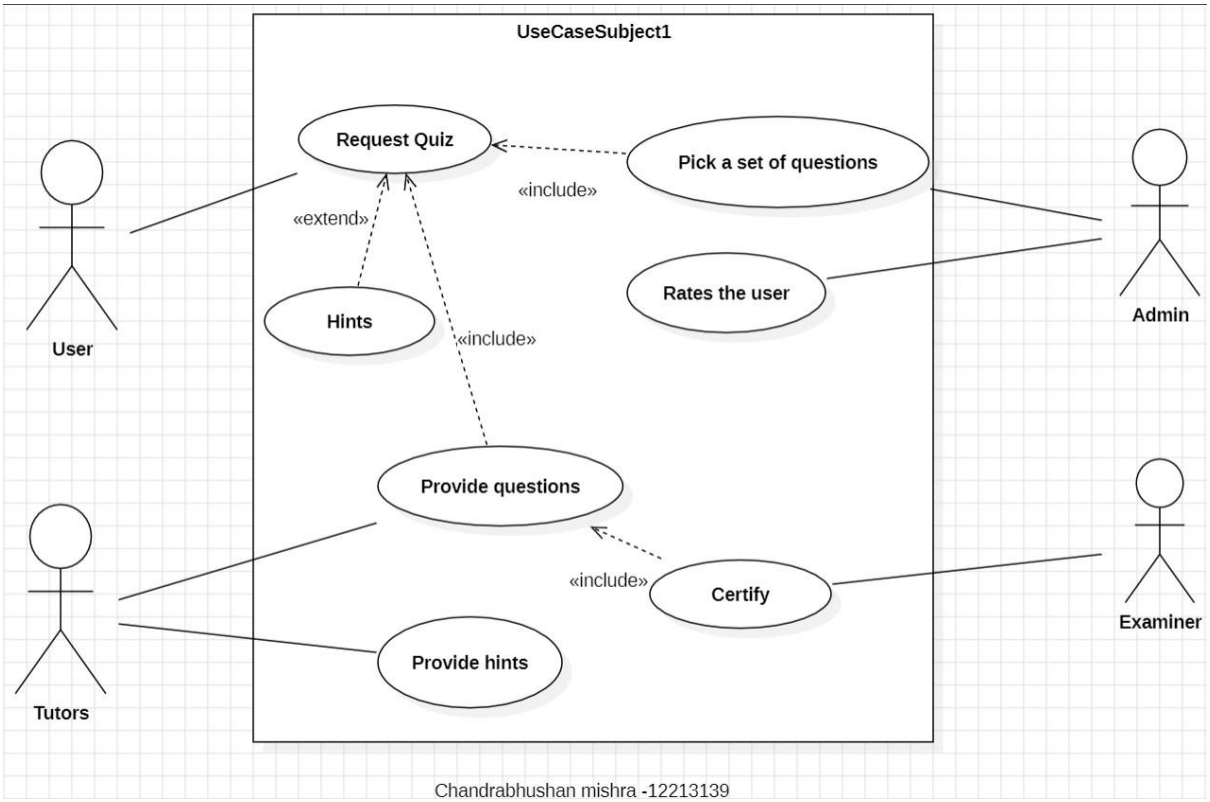
2. A restaurant offers a great meal for their customer. Customer enters in the restaurant. The waiter will give menu to the customer. Customer then places the order and the waiter will take the order to the chef to prepare the food. Once the food is ready waiter will serve the food to the customer after finishing the food customer will pay the bill to the cashier. Draw use case diagram for this.

Ans:



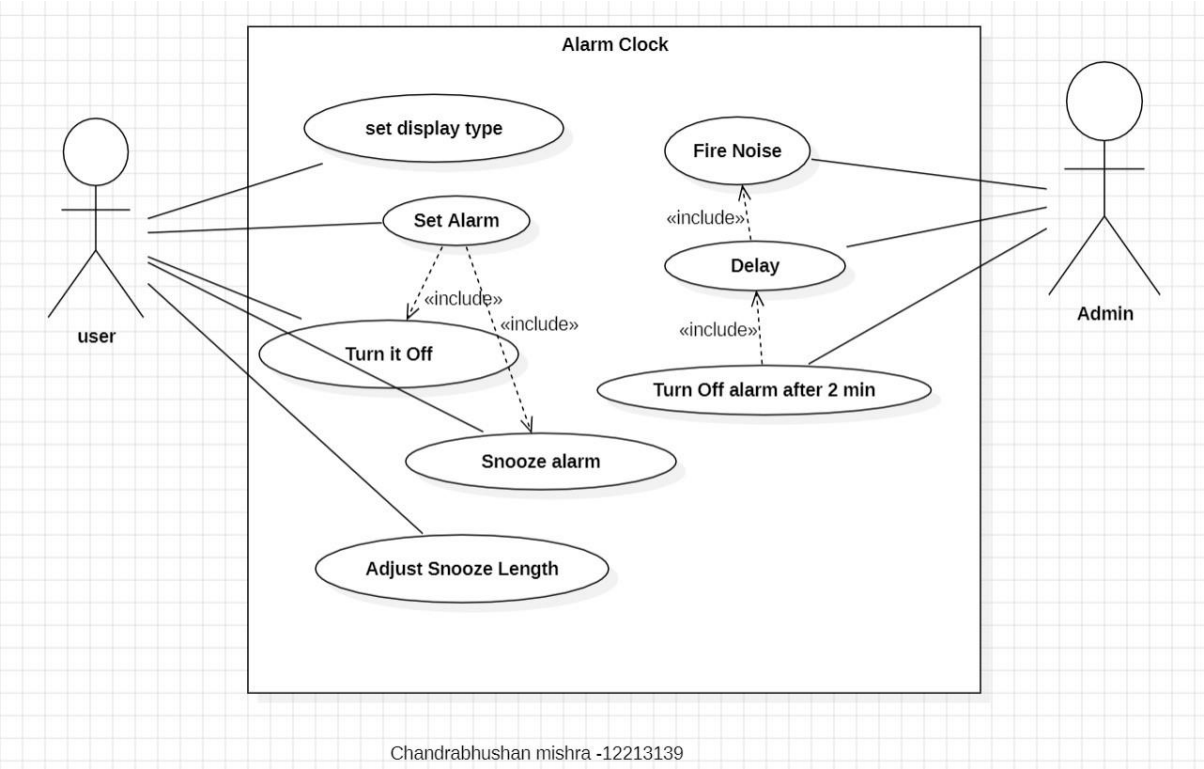
3. Create Browser based training system to help people for a certification exam. A user can request a quiz for the system. The system picks a set of questions from its database. It rates the user answers and give hints if user requests, in addition to users we also have tutors who provides questions and hints. also examiners who must certify to make sure they are not too trivial. Draw a use case diagram to model this system.

Ans:



4. Suppose we want to develop software for an alarm clock. The clock shows the time of the day using buttons. The user can set the hour and minute filed individually and use 12 or 24 hour display. It is possible to set multiple alarms. When an alarm fires it will make noise. The user can turn it off or choose to snooze if the user does not respond at all the alarm will turn off after 2 minutes. Snoozing means to turn off the sound but the alarm will fire again after some minutes of delay. The snoozing time is PRE adjustable.Model it with use case diagram.

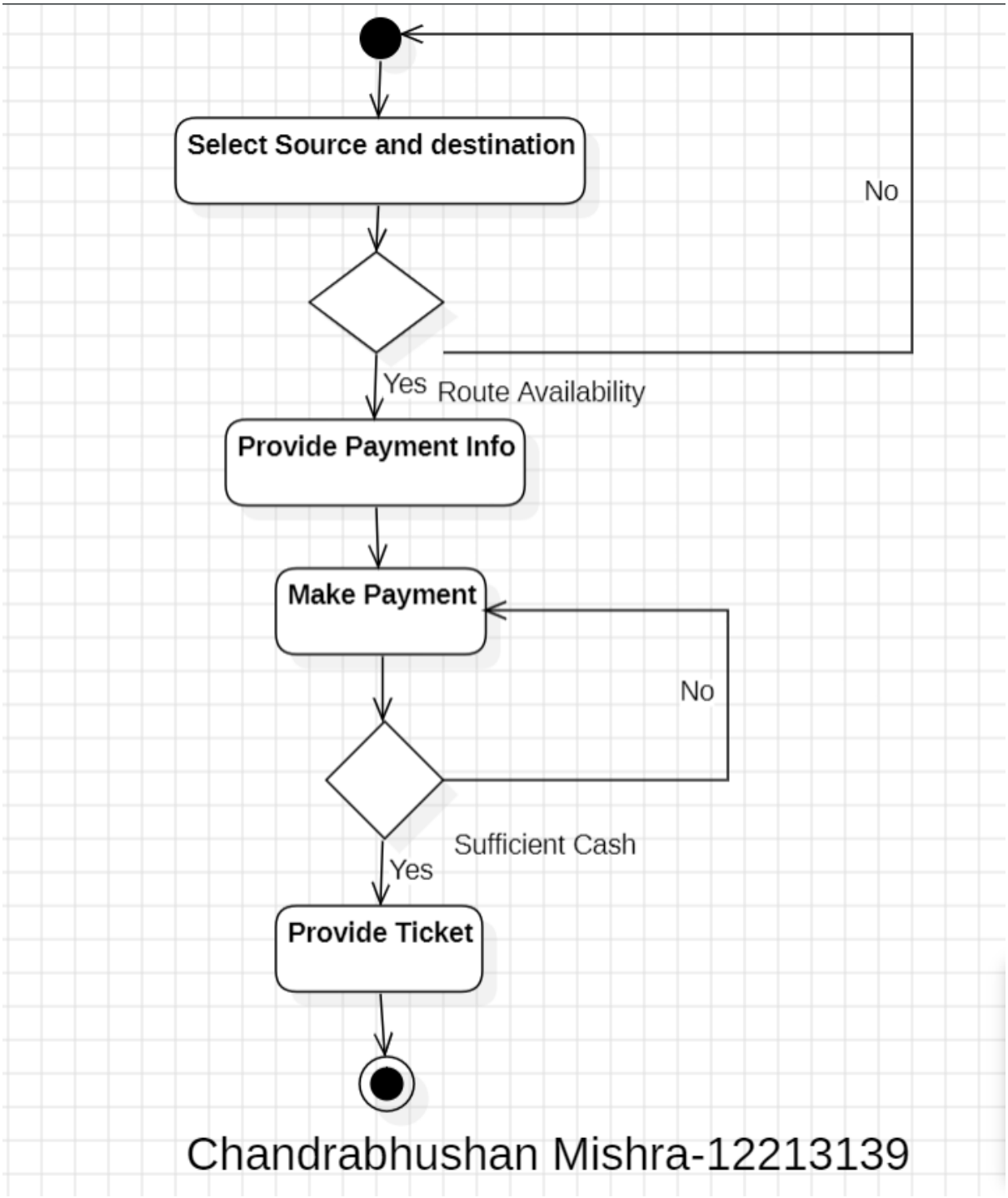
Ans:



Experiment 2: Activity Diagram

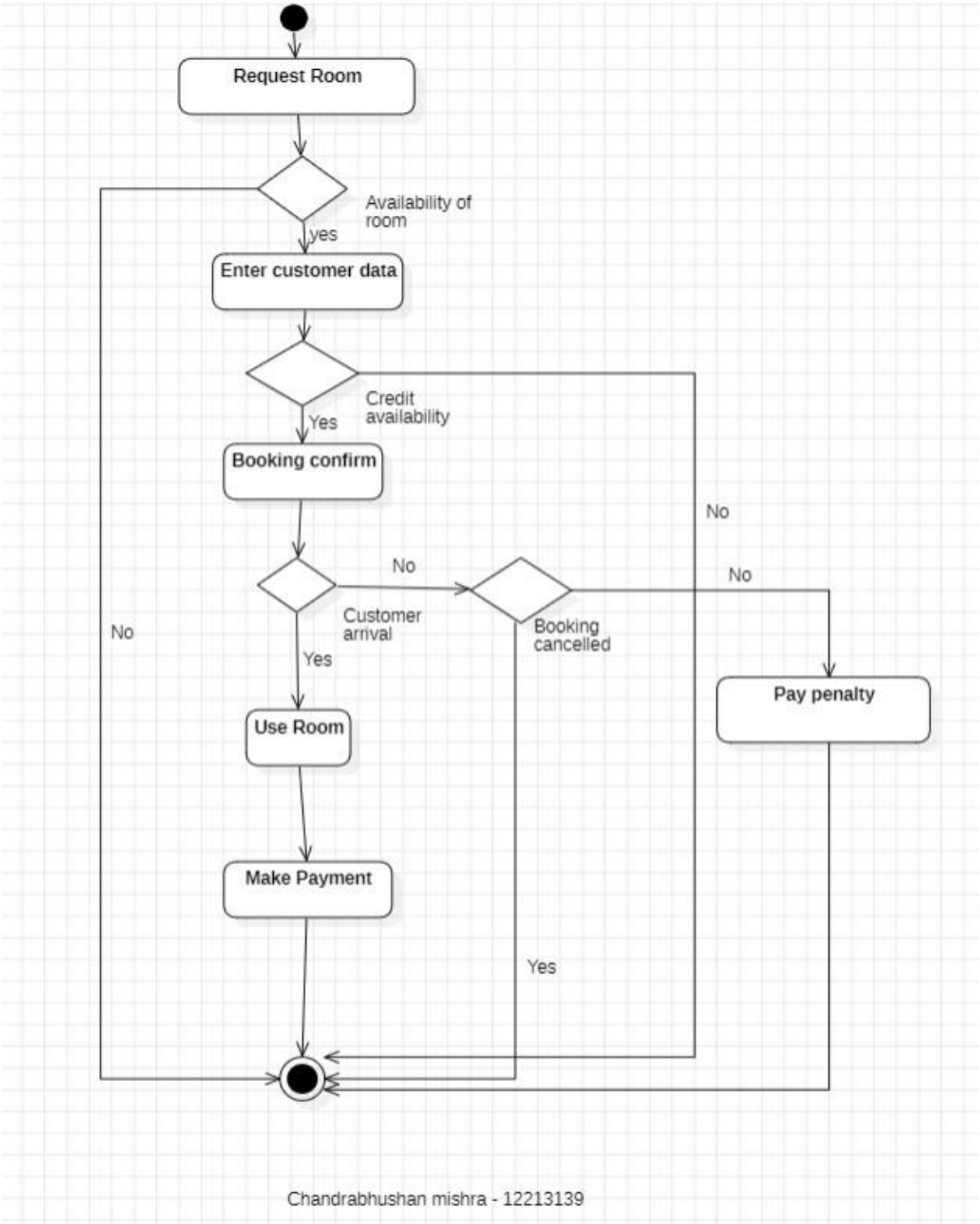
1. Create an activity diagram describing a process of a person using the machine to buy a ticket from Jahangir-puri to huda city center and the machine only takes cash, no credit or debit card.

Ans:



2. When customer request a room, the hotel employee looks for availability, then he inserts customer data and verifies if the provided credit card number has enough credit to pay the room, booking is confirmed and wait customer arrival. The hotel system allows customer to modify or cancel his/her room. If customer arrive he uses the room then he pays, in case of no show, a penalty is accounted on his credit card and the booking is cancelled.

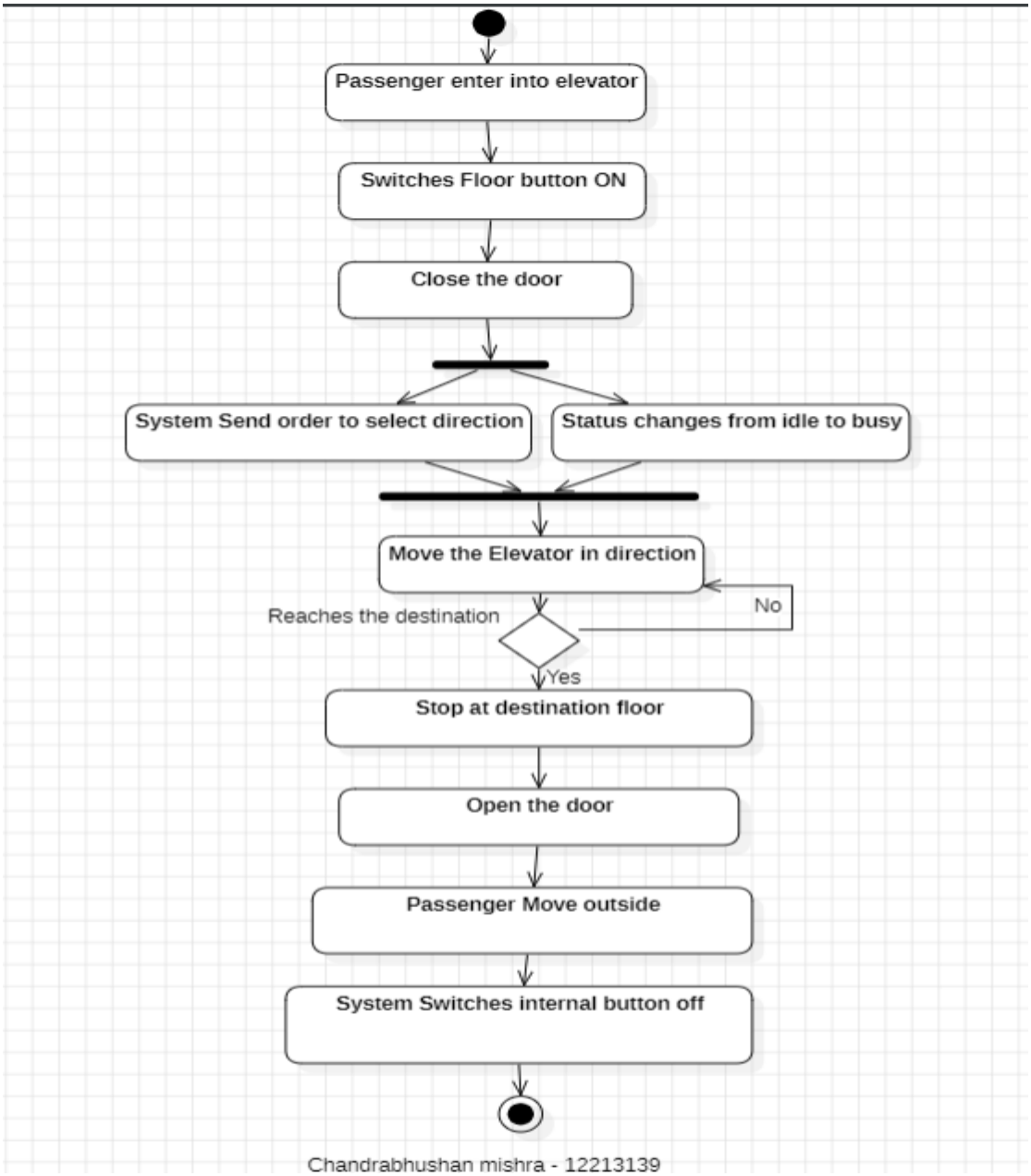
Ans:



3. Scenario : ‘SELECT FLOOR’

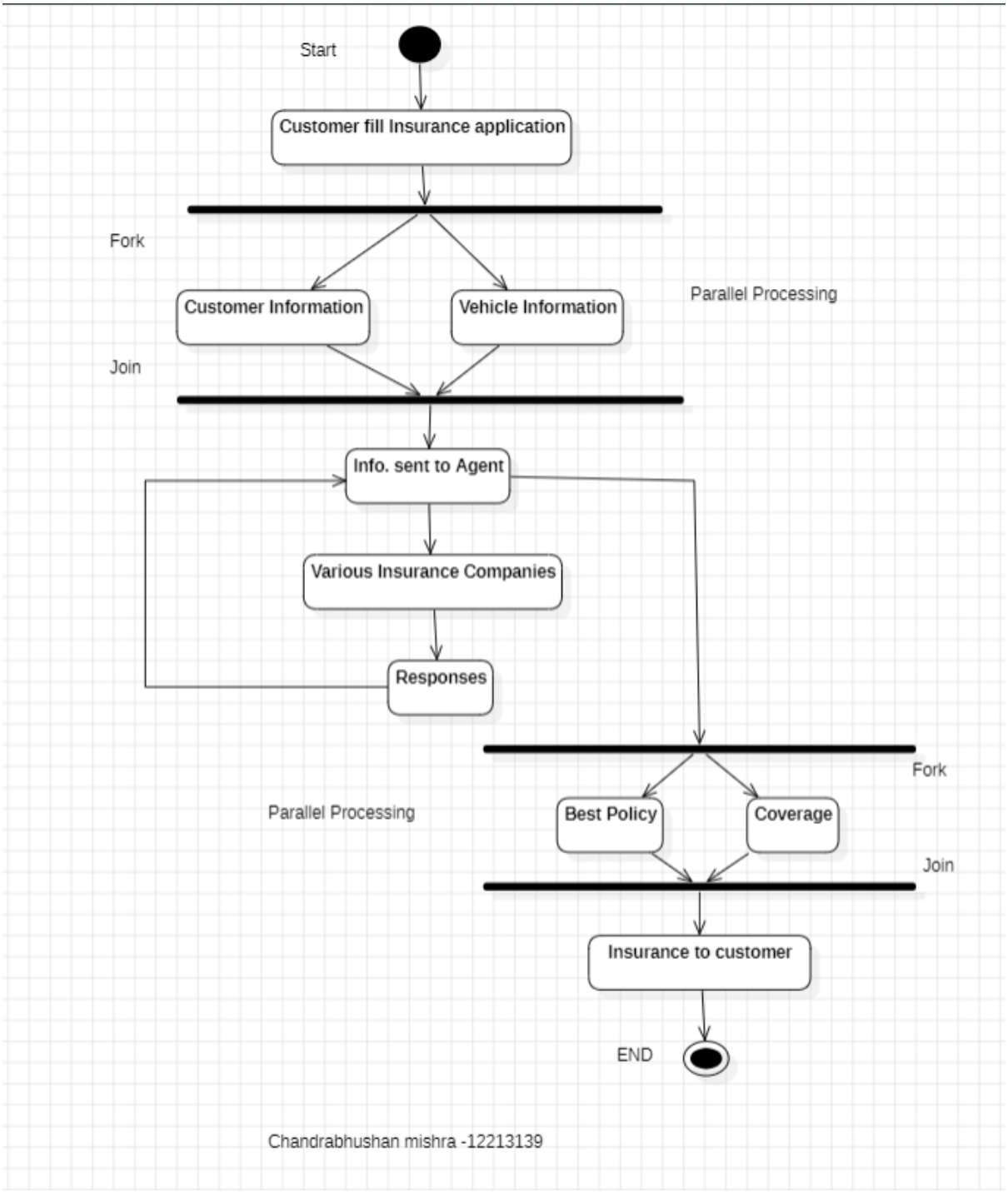
a. Passenger pushes destination floor button (internal button).
b. Internal button sends the system the order to select the direction up or down.
c. System changes elevator status from idle to busy.
d. System switches floor button.
e. System closes elevator door.
f. System moves elevator according to destination floor direction.
g. Elevator sends the system the order to control if the floor that the elevator is going to pass through is the destination one.
h. System stops the elevator at destination floor.
i. System opens the door at destination floor.
j. Passenger moves outside the elevator.
k. System switches internal button off.

Ans:



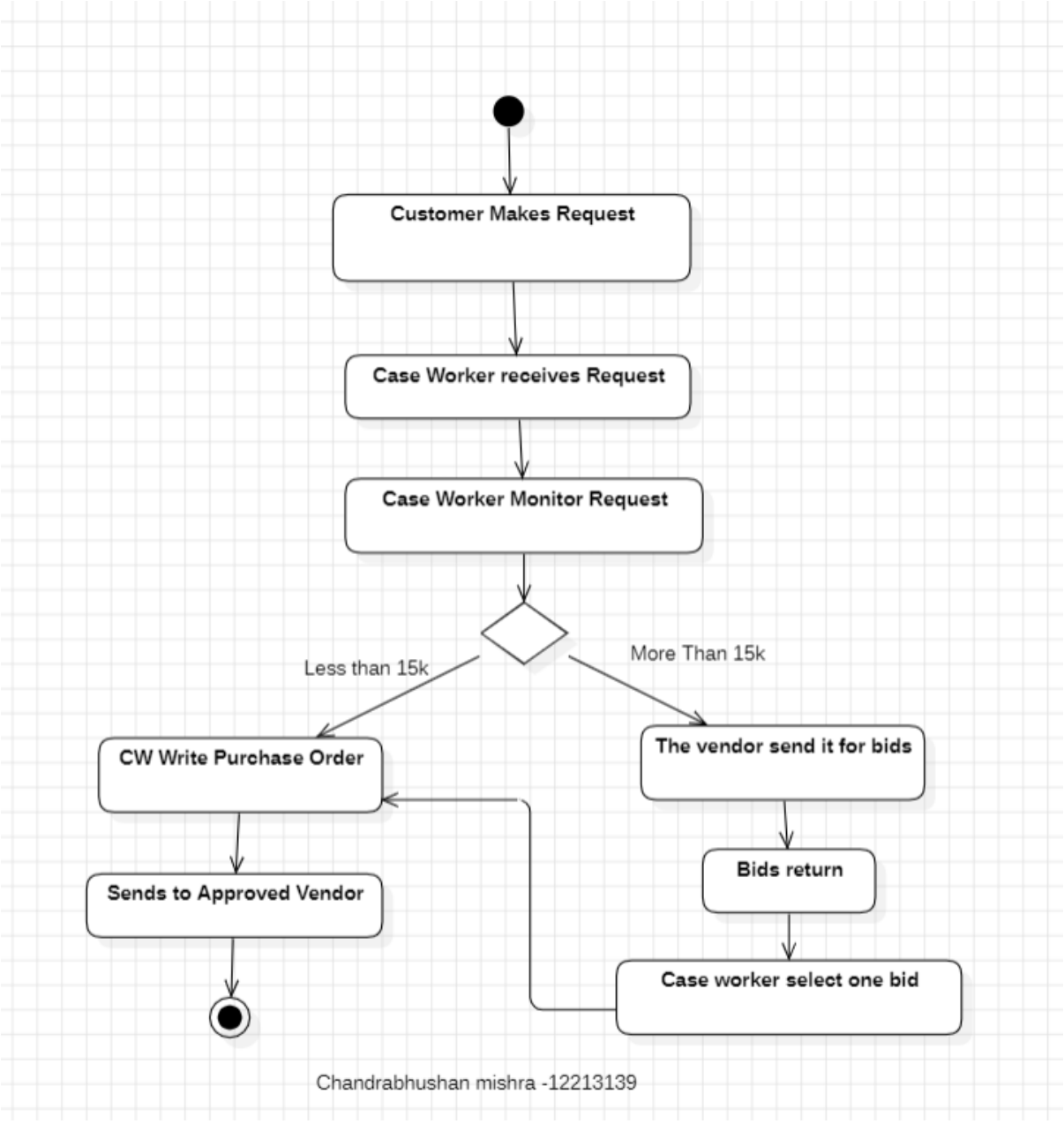
4. Develop an activity diagram based on the following narrative. The purpose of the Open Access Insurance System is to provide automotive insurance to car owners. Initially, prospective customers fill out an insurance application, which provides information about the customer and his or her vehicles. This information is sent to an agent, who sends it to various insurance companies to get quotes for insurance. When the responses return, the agent then determines the best policy for the type and level of coverage desired and gives the customer a copy of the insurance policy proposal and quote.

Ans:



5. Create an activity diagram based on the following narrative. The purchasing department handles purchase requests from other departments in the company. People in the company who initiate the original purchase request are the "customers" of the purchasing department. A case worker within the purchasingdepartment receives that request and monitors it until it is ordered and received.Case workers process the requests for purchasing products under $1,500, write a
purchase order, and then send it to the approved vendor. Purchase requests over $1,500 must first be sent out for a bid from the vendor that supplies the product. When the bids return, the case worker selects one bid. Then, the case worker writes a purchase order and sends it to the approved vendor.

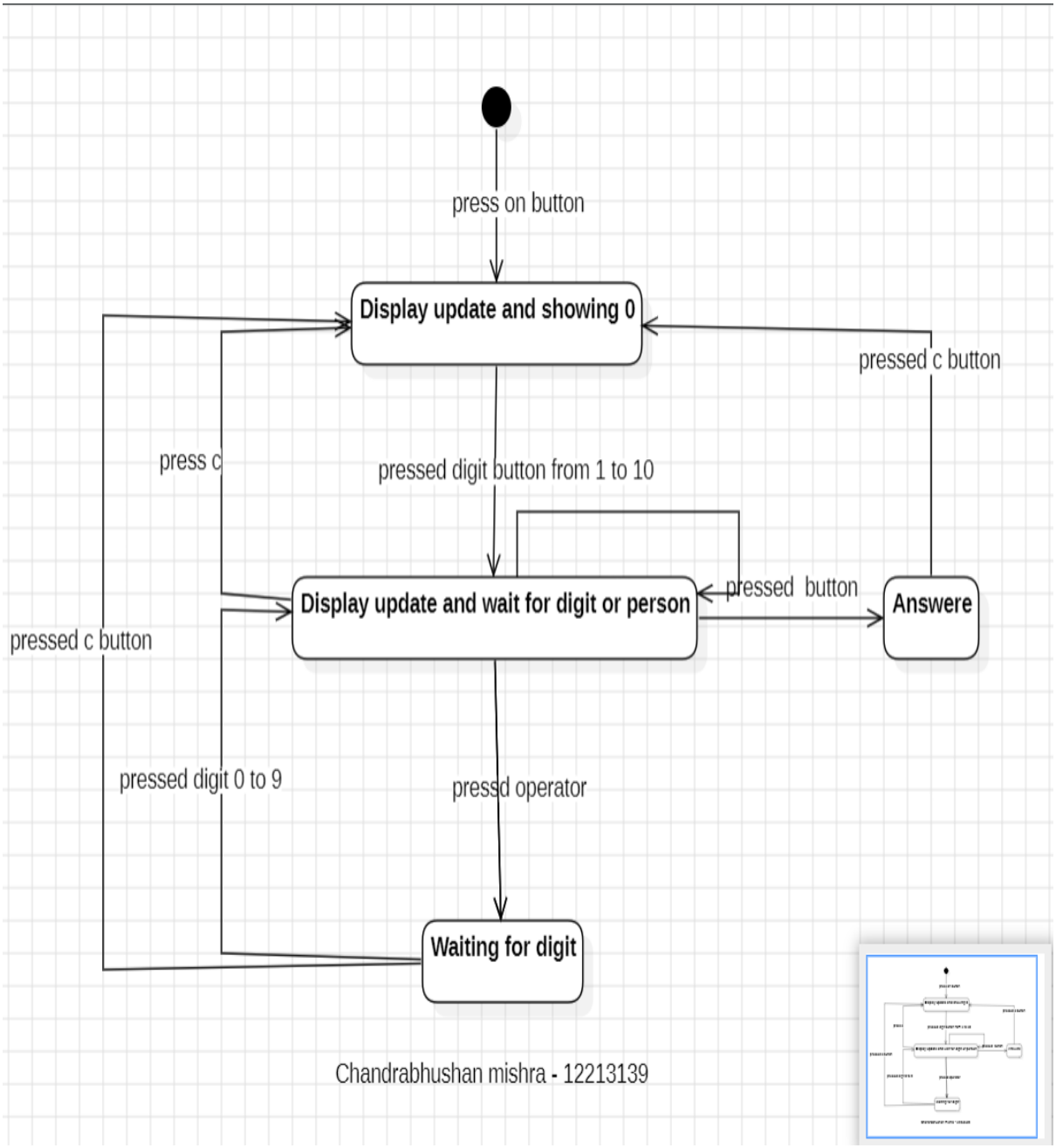
Ans:



Experiment 3: State Diagram

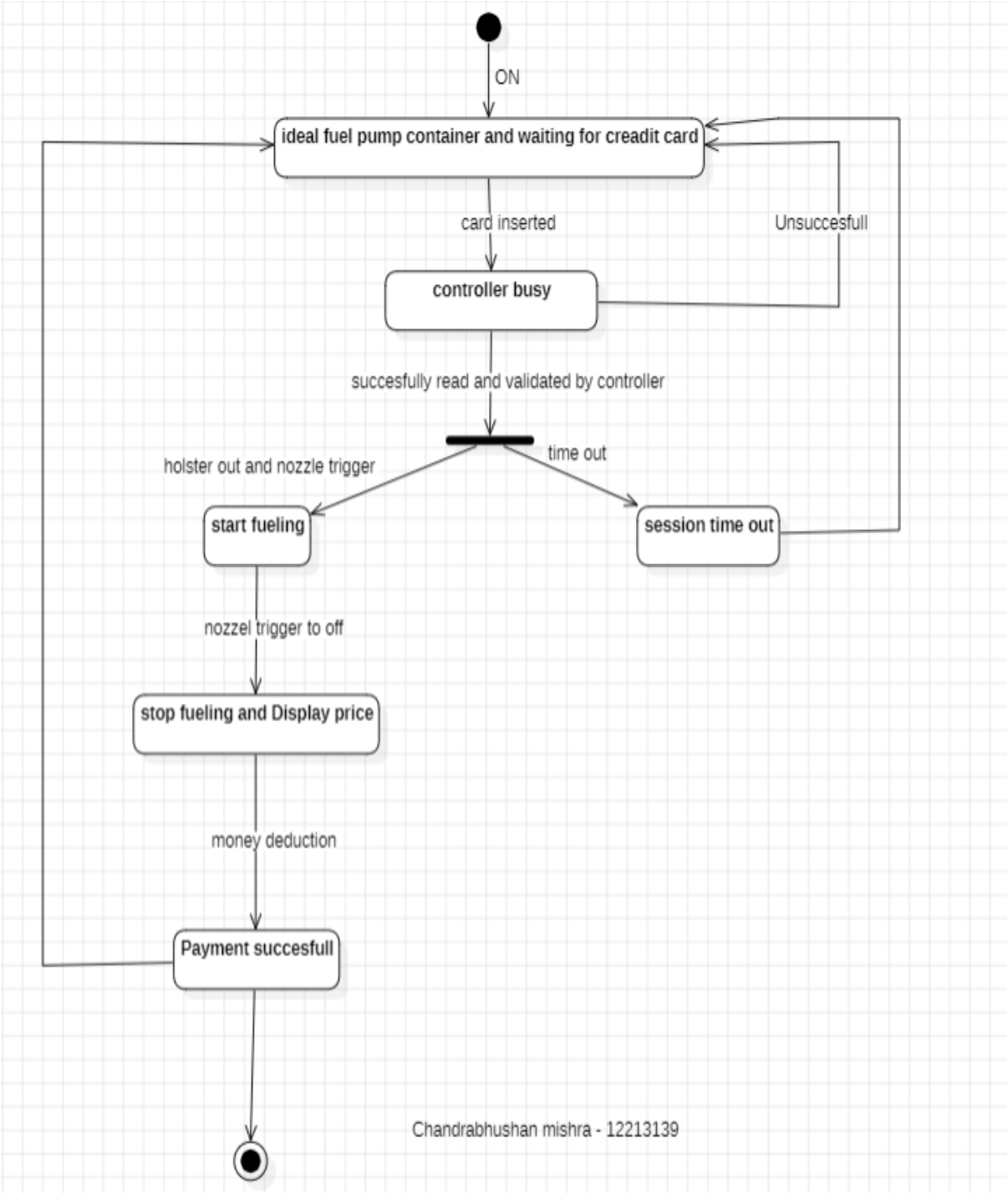
1. State chart diagram for a simple calculator. Interface has 10 buttons with digit and four buttons with the basic operation. The button ‘C’ resets the display. The button ‘=’ displays the answer.

Ans;



2. Model the behavior of a fuel pump container. User can buy fuel after inserting a credit card, which is read and validated by the controller. Then the user takes the hose out of the holster and pushed the nozzle trigger to fuel his car, when the nozzle is off. And the price is charged on the credit card. If invalid card or time out, the system returns to the initial waiting stage.

Ans:



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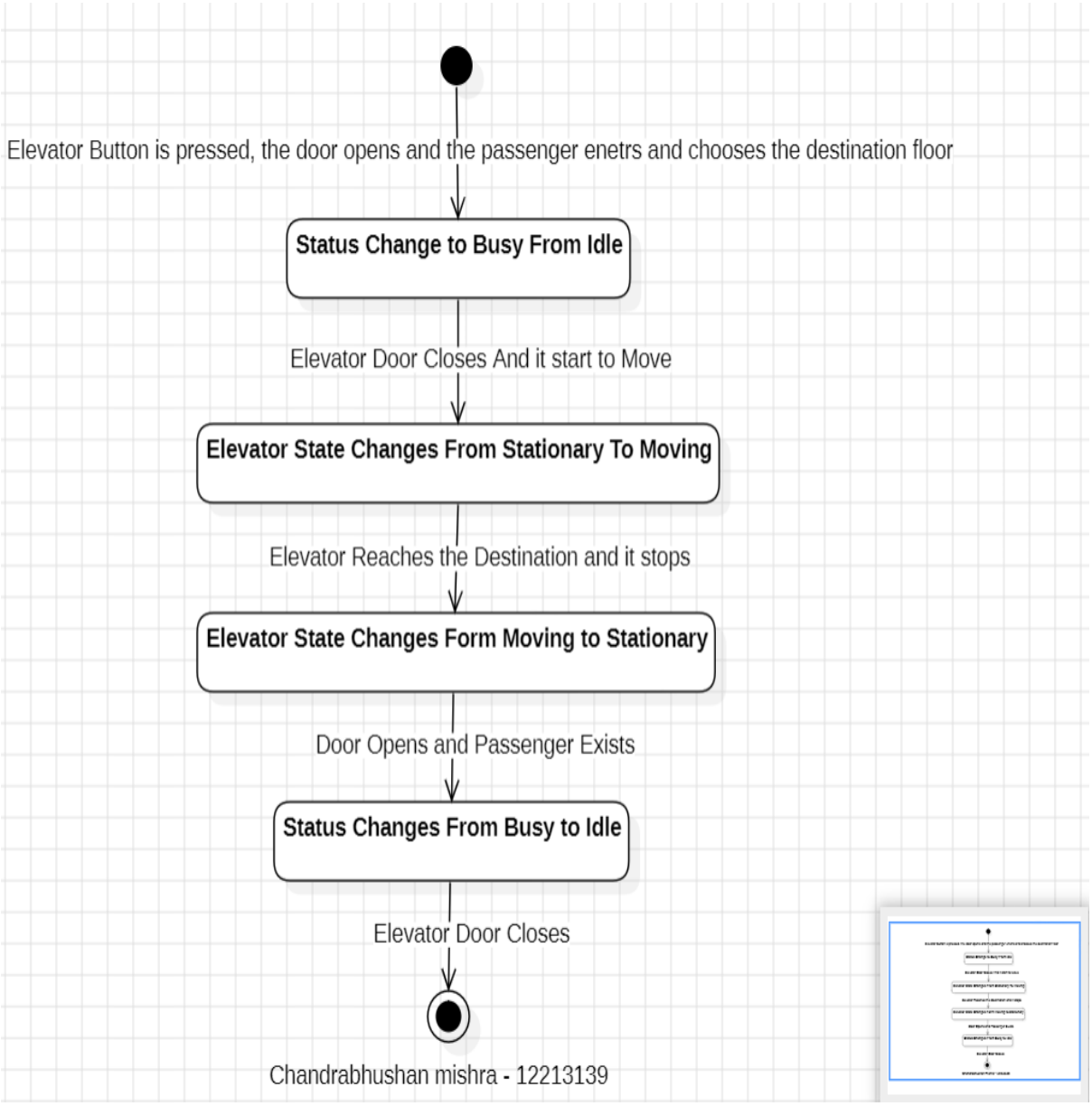
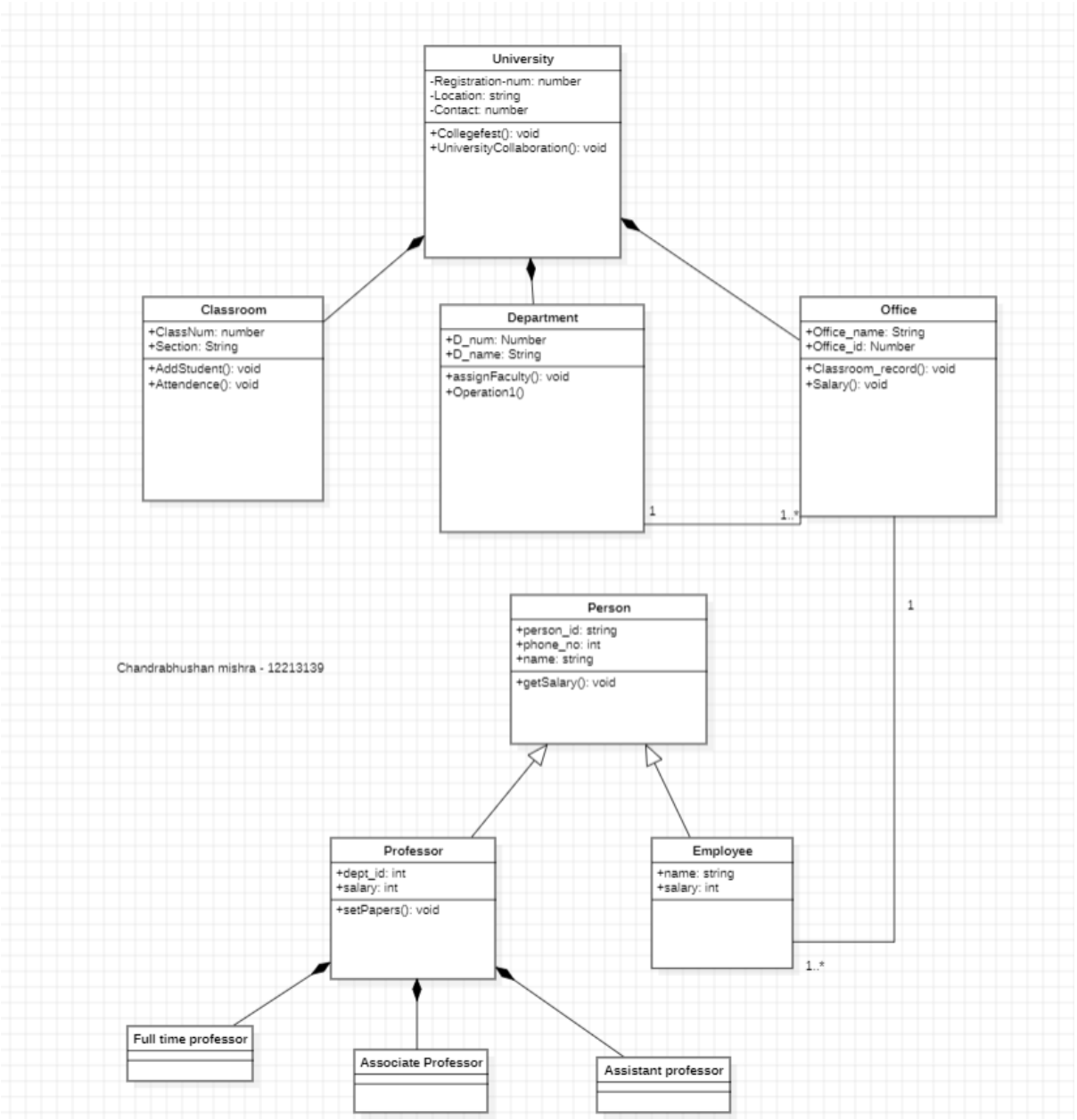


Experiment 4: class Diagram

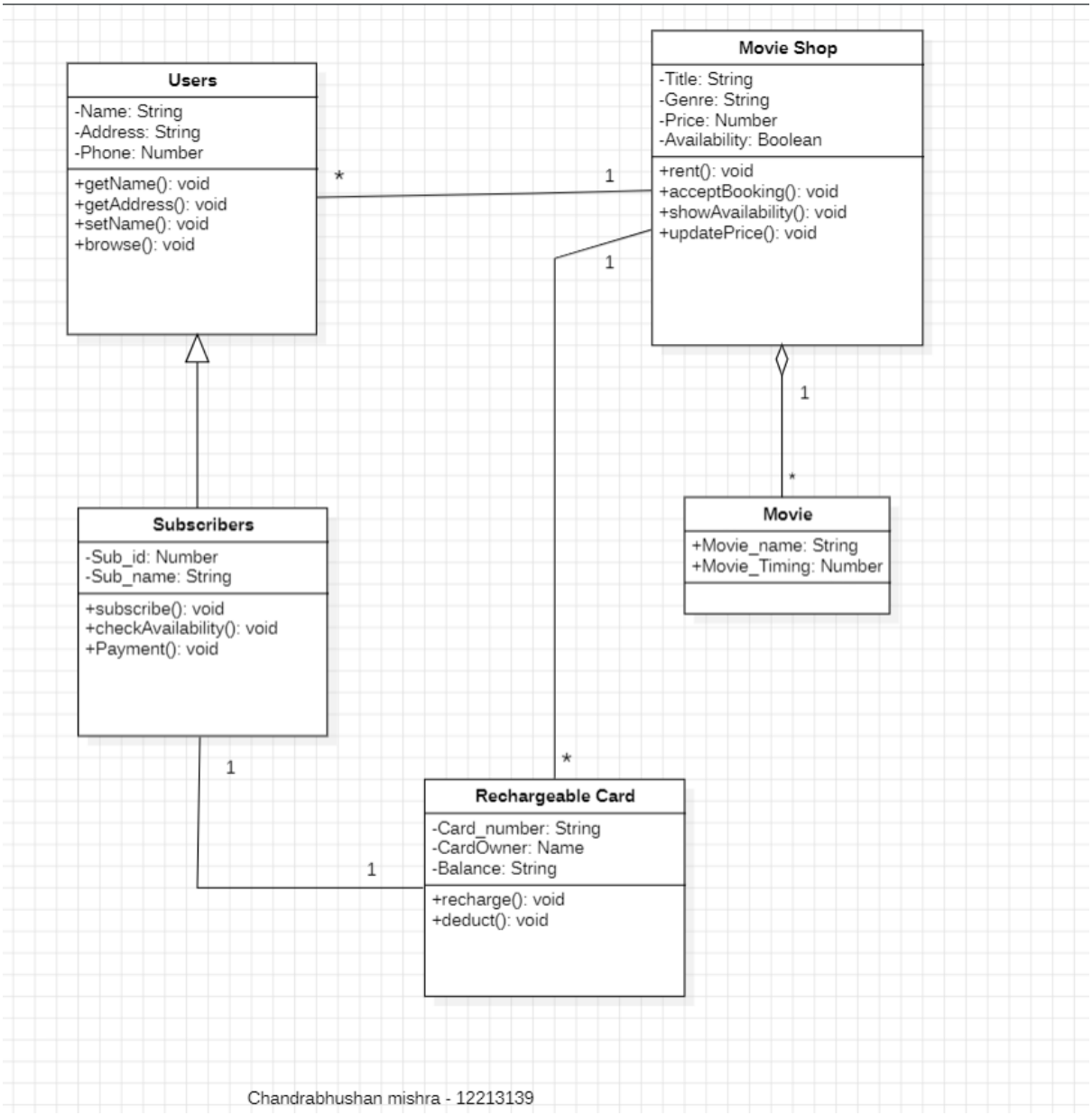
1. In a university, there are different classrooms, offices& dept., a dept. has a name and it contains many offices. A person working at a university has a unique ID & can be a professor or an employee. A professor can be full, associate or Assistant Prof & he or she is enrolled in one department. Offices& classrooms have a no., id and a classroom have a no. of seats,every employee works in a office.

Ans:



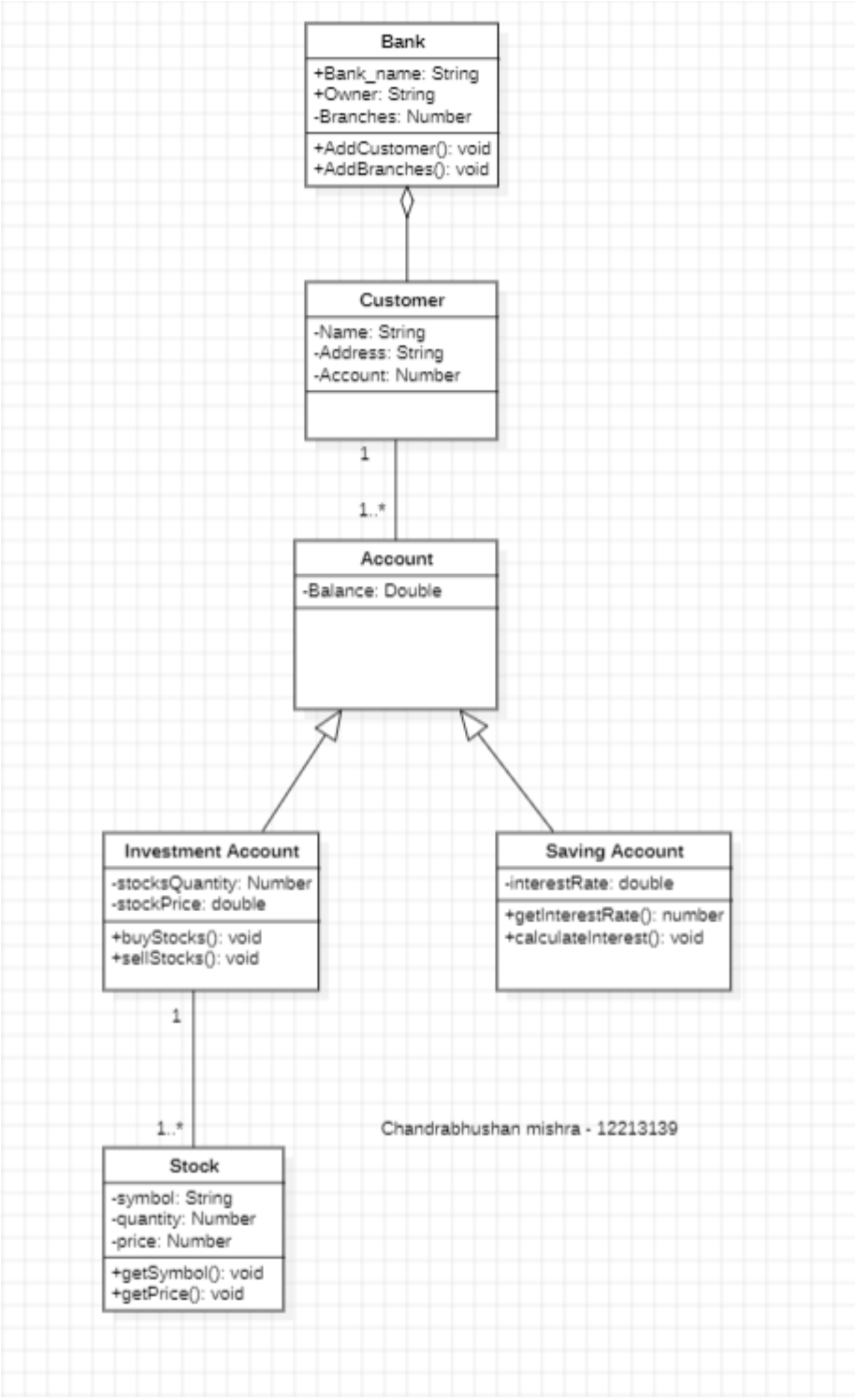
2. Design a system for a movie shop in order to handle ordering of movies & browsing of the catalog of the store & user subscriptions with rechargeable cards. Only subscribers are allowed for hiring movies. Their own card credit is updated on the card during rent operations.Both users & subscribers can buy a movie & these data are saved in the relative order. When a movie is not available, it's ordered.

Ans:



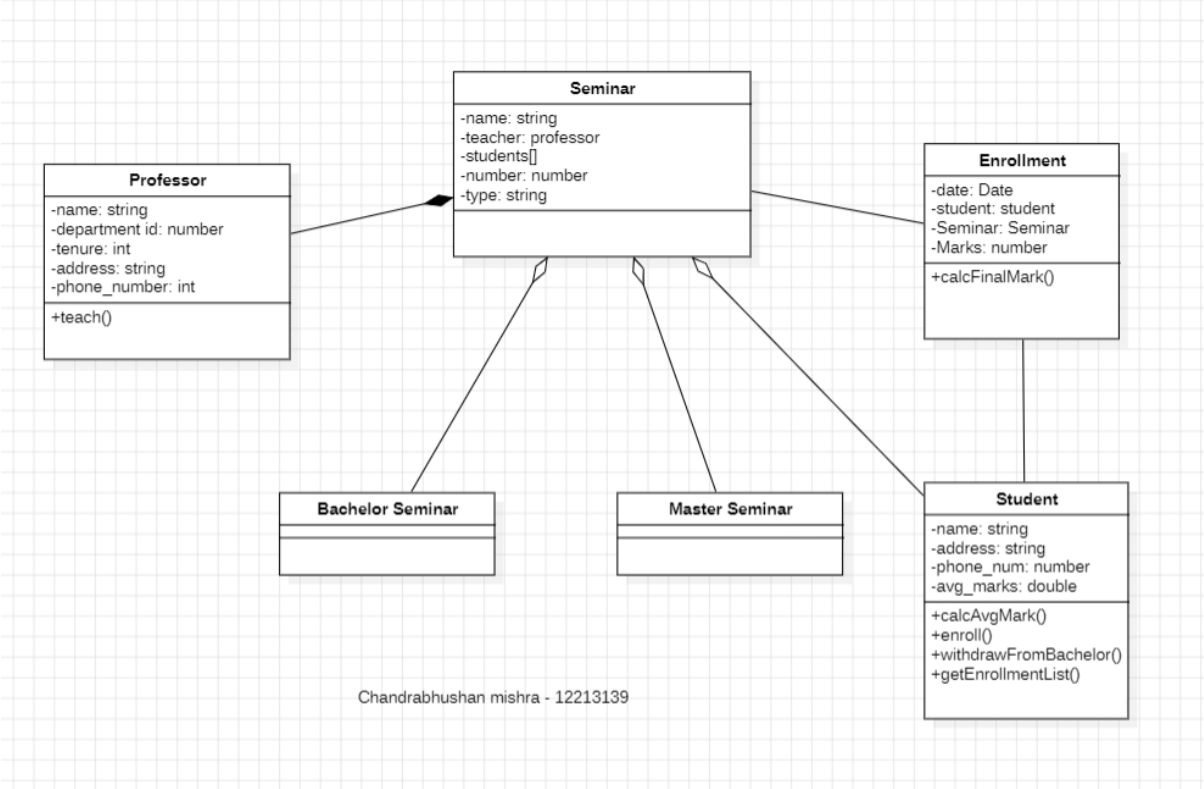
3. Bank system contains data on customers &there accounts, Customer are identified by their name and address, each account has a balance & there are 2 types of accounts--> one for savings which offers are interest vote ,other for investments used to buy stocks , stocks are bought at a certain quantity for a certain price & the bank applies commission on stock orders.

Ans:



4. A professor has a name, address, phone number, email address, and salary. A student has also a name, etc., but no salary (sorry). A student, however, has an average mark (of the final marks of his or her seminars).A seminar has a name and a number. When a student is enrolled in a seminar, the marks for this enrollment are recorded and the current average as well as the final mark (if there is one) can be obtained from the enrollment. From a student one can obtain a list of seminars he or she is enrolled in. Professors teach seminars. Each seminar has at least one and at most three teachers. There are two types of seminar: bachelor and master. From a bachelor seminar students cannot withdraw. From a master seminar they can.

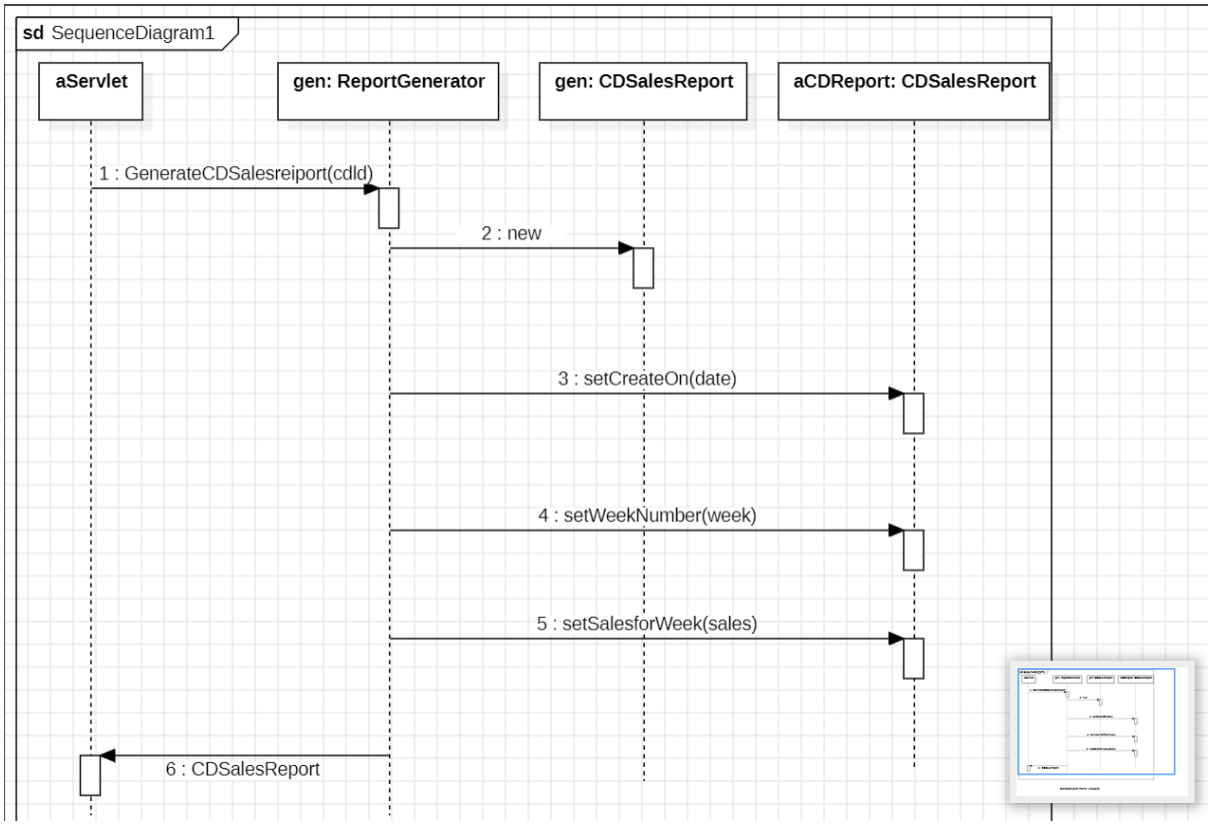
Ans:



Experiment 5: Sequence Diagram

1. Create a CD Sales Report. The aServlet object is our example driver. aServlet sends a message to the ReportGenerator class instance named gen. The message is labeled generateCDSalesReport, which means that the ReportGenerator object implements this message handler. On closer inspection, the generateCDSalesReport message label has cdId in parentheses, which means that aServlet is passing a variable named cdId with the message. When gen instance receives a generateCDSalesReport message, it then makes subsequent calls to the CDSalesReport class, and an actual instance of a CDSalesReport called aCDReport gets returned. The gen instance then makes calls to the returned a CDReport instance, passing it parameters on each message call. At the end of the sequence, the gen instance returns a CDReport to its caller a Servlet.

Ans:



2. Customer wants to draw money from his bank account. He enters his card into the ATM. The ATM machine prompts 'ENTER PIN'. The ATM internally retrieves bank account no. from card. ATM encrypts the PIN and account no. and sends it over to the bank. The bank verifies the encrypted account and pin no. If pin no. is correct, the ATM displays 'ENTER AMOUNT' and draws money from bank account and page out the amount

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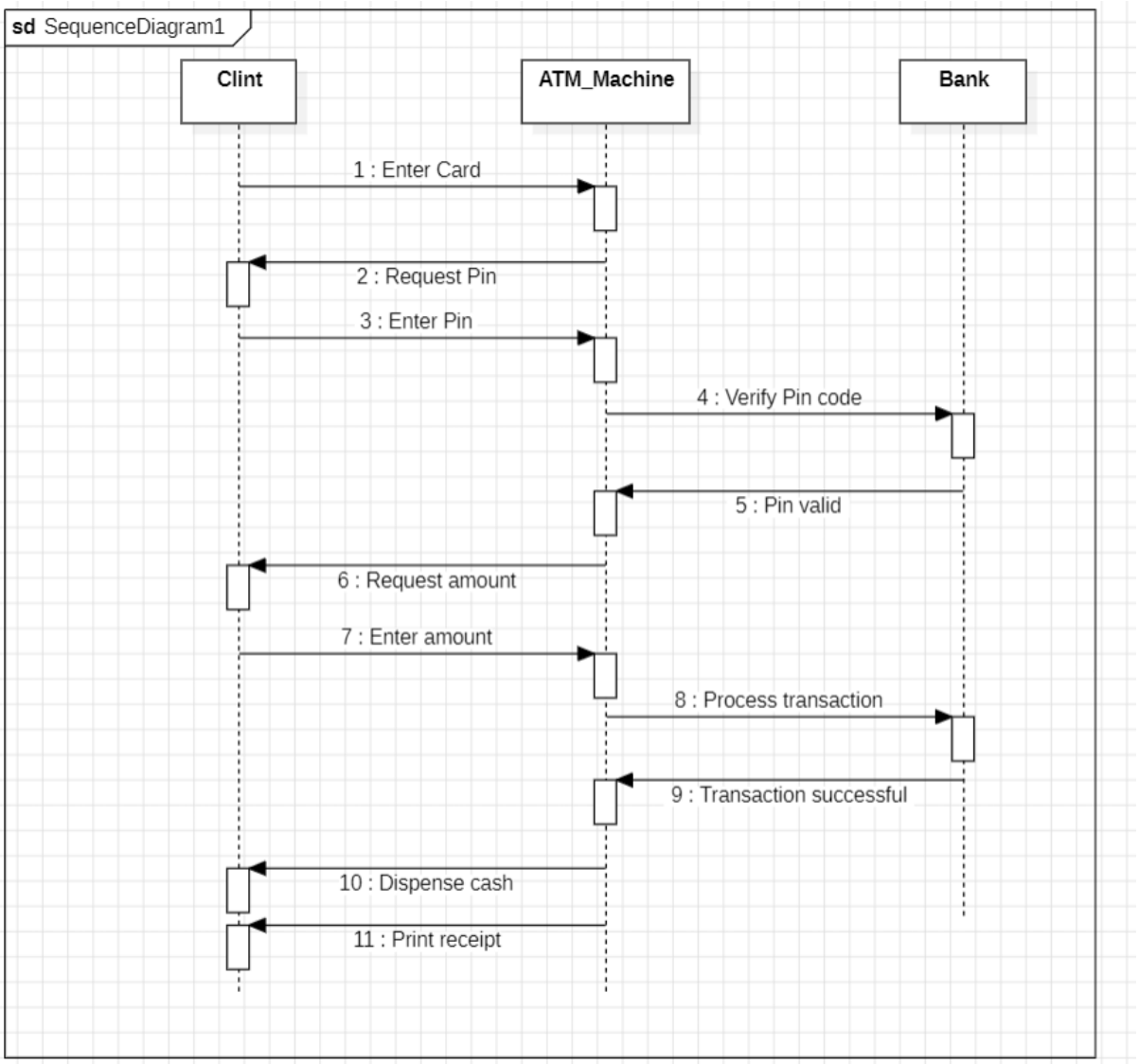

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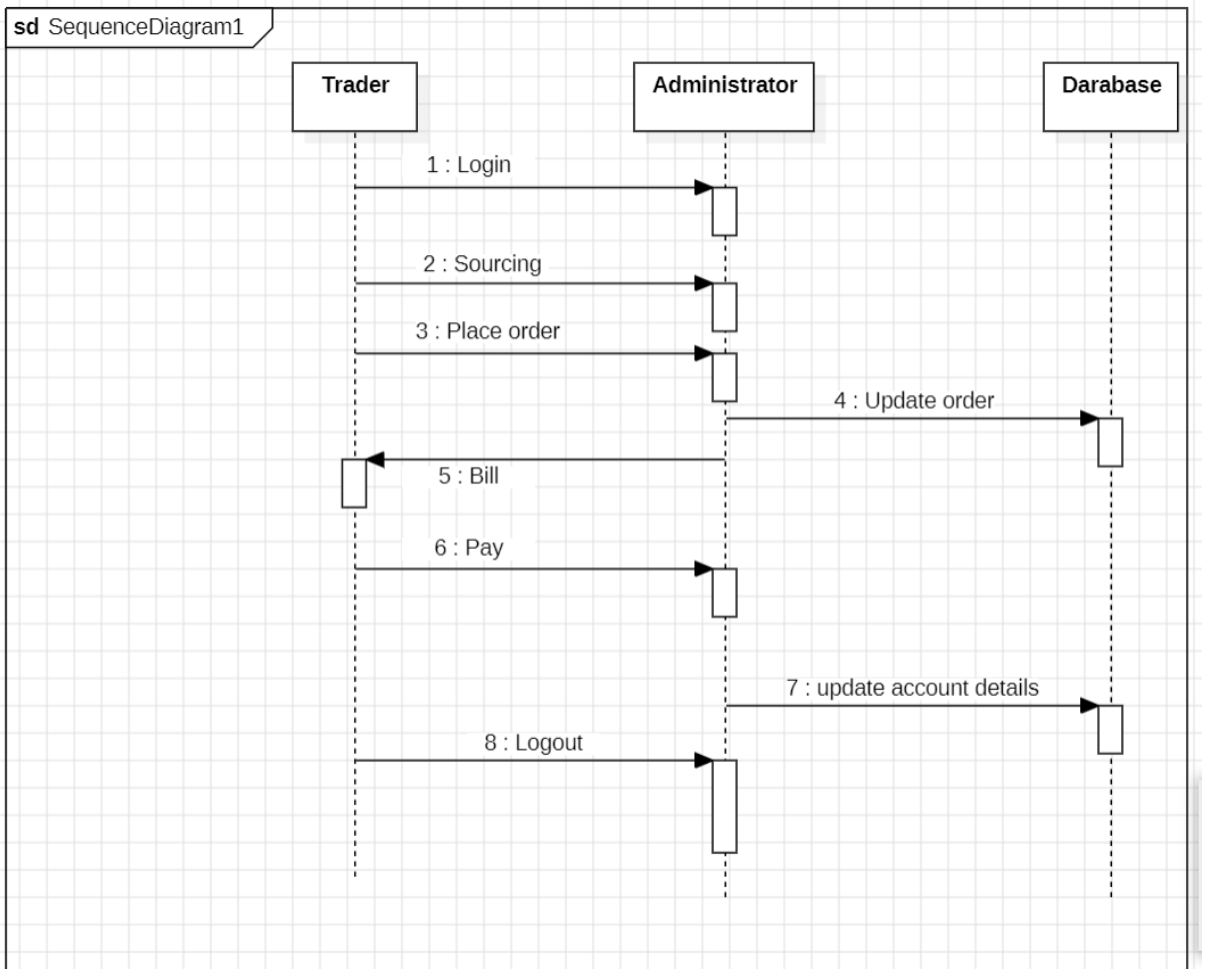
3. Foreign Trading System.

Ans:



Experiment 6

1. Create Collaboration Diagram for the following scenariosCustomer wants to draw money from his bank account. He enters his card into the ATM. The ATM machine prompts ‘ENTER PIN’. The ATM internally retrieves bank account no. from card. ATM encrypts the PIN and account no. and sends it over to the bank. The bank verifies the encrypted account and pin no. If pin no. is correct, the ATM displays ‘ENTER AMOUNT’ and draws money from bank account and page out the amount.

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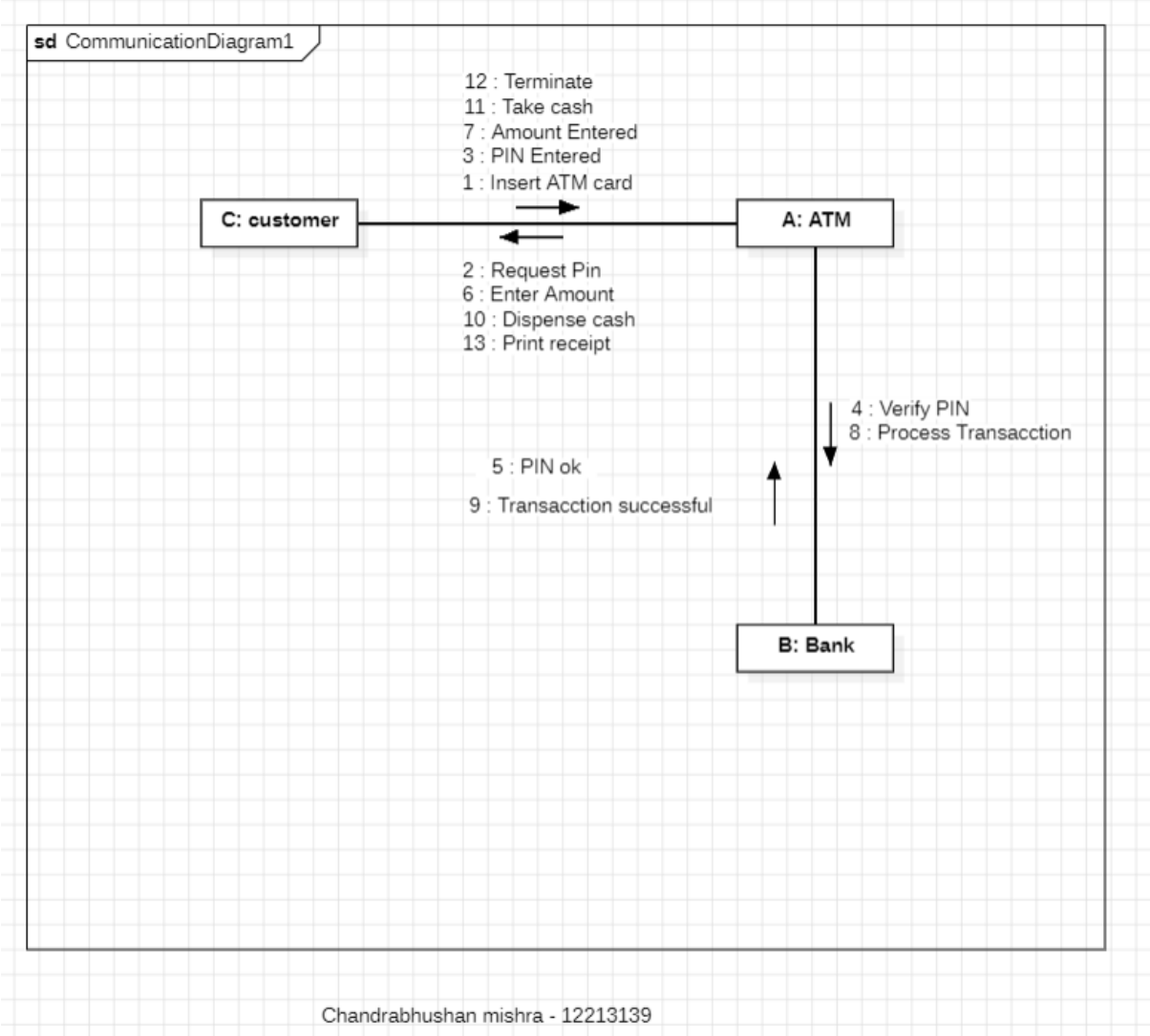

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