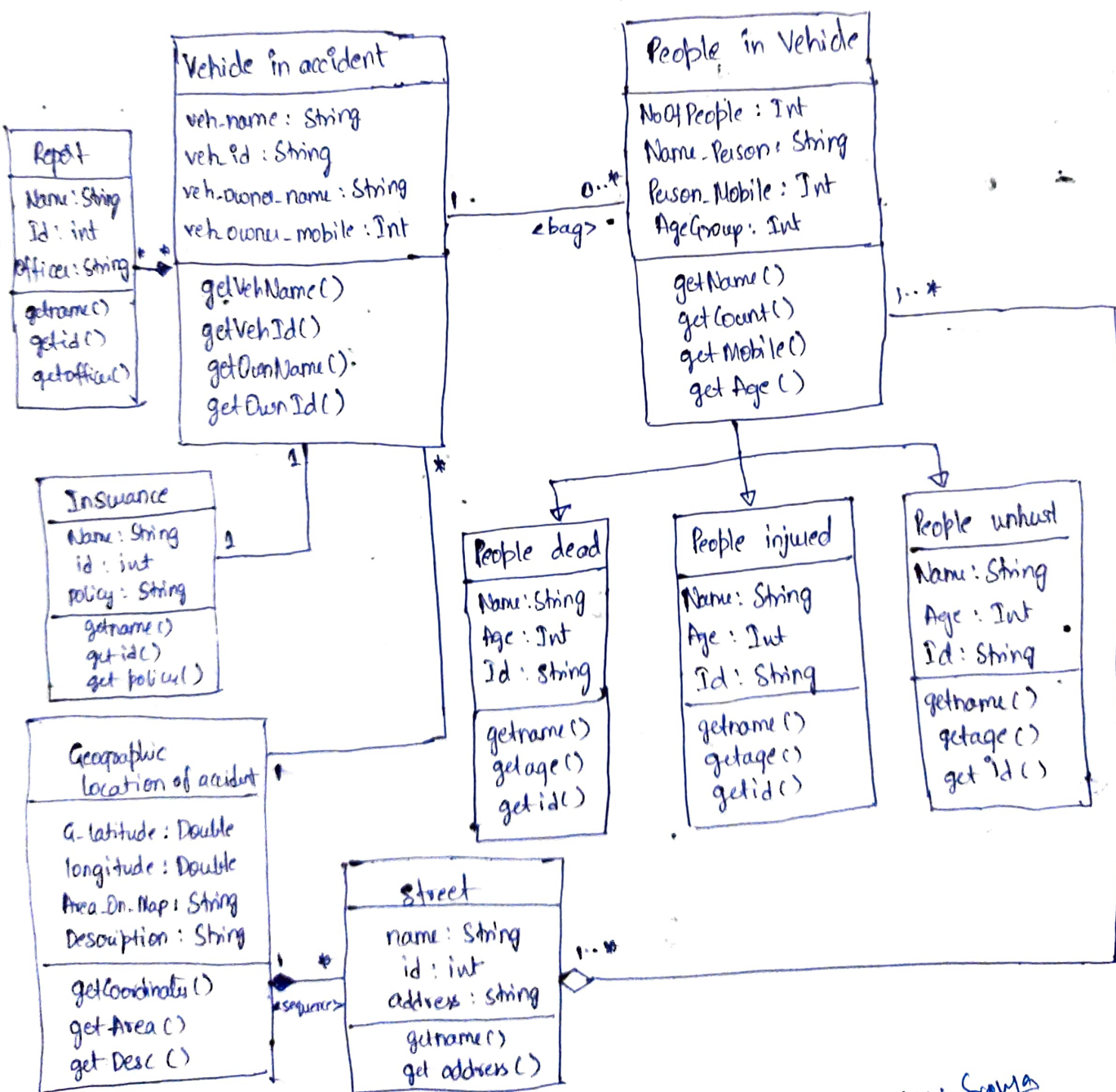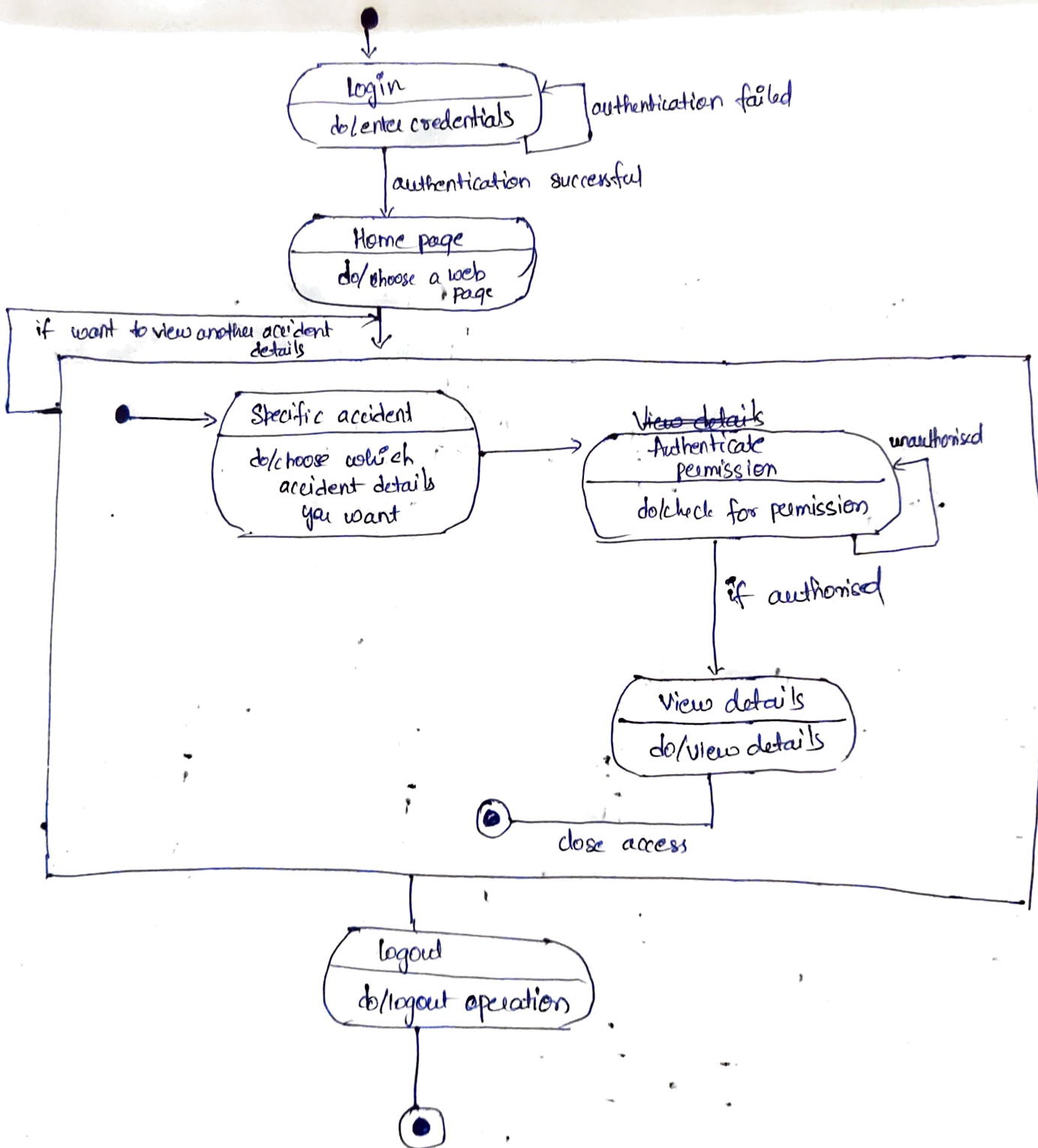Design class and State diagram for Accident database Management system.

- Explain constraints on links
- Show the use of entry and exit activities

Class diagram

Accident database management

Report
Name: String
Id: int
Officer: String

getname()
getid()
getofficer()

Vehicle in accident
veh_name: String
veh_id: String
veh_owner_name: String
veh_owner_mobile: Int

getVehName()
getVehId()
getOwnName()
getOwnId()

1 —— 0..* «bag» ——

People in Vehicle
No Of People: Int
Name_Person: String
Person_Mobile: Int
AgeGroup: Int

getName()
getCount()
getMobile()
getAge()

1..*

Insurance
Name: String
id: int
policy: String

getname()
getid()
getpolicy()

People dead
Name: String
Age: Int
Id: string

getname()
getage()
getid()

People injured
Name: String
Age: Int
Id: String

getname()
getage()
getid()

People unhurt
Name: String
Age: Int
Id: String

getname()
getage()
getid()

Geographic location of accident
G_latitude: Double
longitude: Double
Area_On_Map: String
Description: String

getCoordinates()
get Area()
get Desc()

«sequence»

Street
name: String
id: int
address: string

getname()
get address()

1..*

K.V.Sranya

State diagram

Login
do/enter credentials
→ authentication failed

authentication successful

Home page
do/choose a web page

if want to view another accident details

Specific accident
do/choose which accident details you want

View details
Authenticate permission
do/check for permission
→ unauthorised

if authorised

View details
do/view details

close access

Logout
do/logout operation

K.V.Sravya

Viva

1) Explain constraints on links

A constraints extends the interpretation of a UML block inturn allowing you to add new rules.
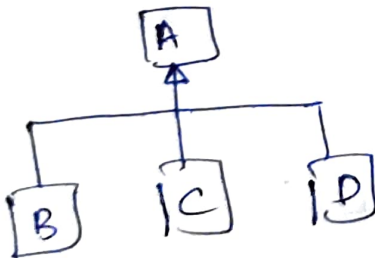It is nothing but a. condition that restricts the extentions of an element.

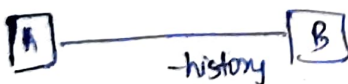Example constraints

A → B   navigation constraint
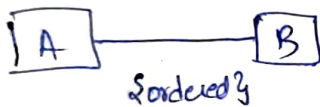
A —— B   ordering property constraint
   {ordered}
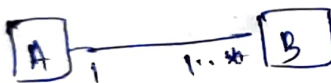
A ——•—— B   multiplicity constraint
  1   1..*

A   generalisation constraint
↑
B C D

A —— B   visibility constraint
  -history

A —— B   changeability constraint
  {unique}

A ——◆ B   composition constraint

③

K.V. Sraya

5) Show the use of entry & exit activities

In a UML one can add an entry or exit activity to describe a task that is done on entry into a state & exit out of a state
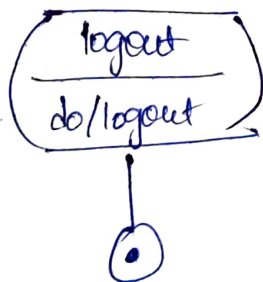
Entry action: Any action that is marked as a link to the entry action is executed whenever a given state in entered via transition.

Exit action: This is executed whenever a state leaves via a transition.

eg:
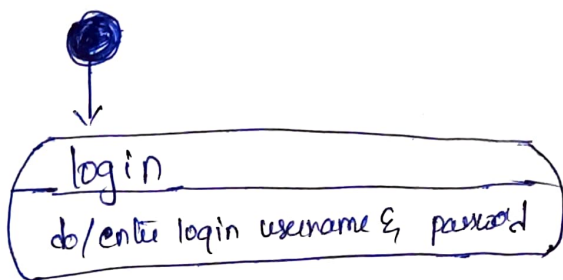
here upon entry login process starts.

here after logout the function exits.