1. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**

   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

   QA01. A transport system has many Bus Depots. Bus depot owns many buses. Each bus has Unique Chassis number (8 digit) and a (4 digit) bus number (unique within all buses owned by the transport system) assigned by Bus Depot. Bus drivers and conductors are employees of transport system. Each transport system employee wears a badge. Badge has ID and name. Conductor has a Ticket vending Machine. One driver and one conductor is assigned to a bus.
   Test your class diagram for one transport system say PMT, two depots swargate and shivajinagar. 2 buses for swargate and 2 for shivajinagar.There should be appropriate number of conductors and drivers for these buses.

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2. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**

   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

   QA02. A transport system owns many transport routes and many buses. Each Bus has RTO registration number (e.g. MH12 AB1234). Each route is identified by a 3 digit unique route number. Transport system runs these buses on different routes. There are two types of busses namely ‘Automatic’ and ‘Manual’. Automatic bus has ticketing machine and only one driver is assigned to that bus. There is no conductor assigned to that bus. Manual bus is always assigned one driver and one conductor. Though bus can run only on one allocated route at any given time, it is possible that more than one bus can run on the same route

   Transport system : PMT, Routes: 5, Buses: 3 automatic and 2 manual

3. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**

   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

   QA03. A transport system owns many transport routes and many buses. Bus with RTO registration number (e.g. MH12 AB1234) runs on a specific route. Route is identified with a unique 4 digit route number. Transport system owns Bus Terminuses at different locations in city. A typical Bus Route starts with a terminus, passes through bus stops and ends at another Terminus. Bus stop and Bus Terminus both are boarding points. Each boarding point holds a list of route numbers passing through it.

4. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**

   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

   QA04. College's Library management system has facility to search and reserve books on their intranet site. Library staff and librarian is responsible for maintaining book catalogue, manage library accounts, purchase of new book. On late return of book, Student has to pay fine.

5. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**

   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

   QA05. Railway reservation system has facility to enquire trains, reservation enquiries, PNR enquiries etc. The system allows to book tickets online using card to registered passengers. Assume various facilities provided by Indian Rail and write detailed problem statement.

6. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**
   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

   QA06: The laboratory management software displays information of computers available in the lab, with their IP address, its configuration, and its status(running, switchoff, standby etc.). It has facility to share desktop and install software's from server. Assume various facilities provided by typical lab management software and draw Usecase diagram.

7. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**
   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.
   QA07: Organization's Employee management system has facility to edit profile, view salary, apply for leave, view task/job allotment information etc. When candidate is selected by organization, he/she has to register with EMS. The manager allots works to different employees on the basis of their skill set. The schedules are generated and sent to employees. On successful completion of tasks the reward points are given to employees. The rewards points are considered for next pay hike given to employees. Assume various participants and draw detailed Use Case Diagram.

8. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**
   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.
   QA08: At the end of third year TP cell of institute asks students to register with training and placement site. While registering student, personal, educational and extracurricular information with resume, is collected by portal. The companies have to register with college portal and have to submit selection method and criteria. The resumes are matched with companies and interviews are scheduled by T & P office. The results of every round are displayed online. Assume necessary details.

9. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**

   Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
   No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

   QA09: Teaching and Learning management system of department is responsible for various activities performed during entire semester. Various committees such as time table, seminar, project, unit test, attendance etc. use this system from start till report generation. At the start of semester, subject choices are taken from faculties. HOD allots subjects and timetables for classes and labs are generated. The attendance is monitored and defaulter list is generated at the end of every month. Unit tests are conducted twice a semester. T/W is calculated on the basis of attendance percentage and unit test performance. Student with less than 75% attendance is detained. Assume various activities performed by various committees. Assume necessary details.

10. **Draw an analysis level Model for the following description and implement the same. [Identify classes, attributes, relationships, end names, multiplicity and show them clearly in the class diagram]**

    Implement this class diagram (Analysis Model) with a suitable object oriented language like java.
    No GUI or user inputs are expected. Test your class diagram through a main() method with the given test input.

    QA10: City Pride movie booking system displays movie schedule, movie reviews, movie trailers, etc. User can search movie by date, time, movie name and Members can book tickets online using credit/debit card. Members can post movie review and ratings.