Mini Project Abstracts

Grading Policy:

Grading will be based on the following elements:

- Have you submitted all required files? (15%)
- Is the source code easy to understand (i.e. good structure and comments) (25%) (Use of public/private/ static, interface, inheritance, overloading, threading, Javadoc, awt, and applets)
- Does your system run correctly? (25%)
- Diligence of test cases (Innovative concept) (15%)
- Design Document (20%)

Assg-1. Student Management System:

Develop a JAVA model that can track student information for an Institution (let XIE). It should be usable to track individual as well as abstract level progress.

Individual information:

- Name
- Gender
- Department (IT, CE, EXTC)
- Roll No
- Date of birth
- SGPA

Abstract information:

College Name
College Address
Branch Average SGPA
Batch Average SGPA
Notice

Additional provisions:
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Login by admin to update, delete and add profile.
Provision to include exam-time-table, result, etc.
Login by student to see his/her profile, result.

Assg-2. Banking System

Write JAVA program that can keep record for a banking system. It should be usable and friendly for customers as well as bank authorities.
Required provisions:

- Create account for new users (customer detail, account type can be current or savings) (Name, age, gender, initial balance, account type, etc)
- Provision to carry out transactions (withdraw, warning with not permissible transaction, deposit and money transform from one account to other)
- Calculate interest (retrieved every month and added to the balanced)
- Administrator to view all the details till to-date.

Additional provision:

- Add credit provision
- Consider age for different rate of interest
- Completely menu driven and user friendly
- Link accounts for money transfer

Assg-3. Billing System

Write Java program that can print bill with following details

- Name of the customer, phone number
- Product name (at least four items from each category
- Category: (ready packets , beverages, essentials, cosmetics, luxury items)
- Number of orders
- Base price
- GST
- Total amount

Create provision to calculate base price in superclass. For the subclass load the tax rate. GST is different for different categories.
Additional provision:

- Create a database for analytics on items sold.
- Create a database of customer with provision to find frequent buyers
- Monitor on sale transaction pattern. (which are the things purchased together)

Q4. Hospital Management System (HMS)

Model is required to include doctors, patients and facilities available/used in the hospital. Use HMS to check existing list /add new members to the list.

Doctors' List: Id , Name, Specialist(ENT, Child, Ortho, Physician, Gyno, etc.), Room
Patient List: id, Name, disease (cancer, pneumonia/cold, cardiac, etc.), sex, age, insured (yes/no), category (corporate, hospital staff, special, others), admission status (outdoor/ indoor) , remark (under gone treatment of/ operated on for/ etc)

Additional Provision:

- Generate bill
- Keep provision for subsequent visits with discounted price

Q5. MCQ Applet

Build a Java applet for multiple choice examination with following provisions:

- User to select the subject (analog electronics, digital electronics, aptitude)
- Each subject to have 10 questions with four options each.
- User to select number of question to be examined for.
- Record the name, date and score
- Display the score at the end.
- Allow 2 minutes to answer, if not answered consider it as a wrong answer and move on to next question.

Optional provisions:

- Add level of difficulty
- Add comparisons like better/inferior than your previous score, ranking among the all that have so far appeared for the test on this category.

Q6**. Payroll Management Model**

In Payroll Management System one can view all the details like Salary, Payslips, attendance and also Print the results.

Features:

- Register Employee (id, name, designation, date of joining, age, pay scale, DA rate, special consideration if any)
- Search Employee(from id, from name)
- Salary Deduction (for number of days)
- Payment calculation(monthly, yearly)
- Deductions (provident fund, TDS, etc.)

Log in provision (optional)

- By employee to see and print
- By authorised person to update

Q7. Library Management System

Design a Java based computerized system to maintain all the daily work of a library. The system is required to helps both students and library manager to keep a constant track of all the books available in the library. It must have provision to allow both the admin and the student to search for the desired book.

The main feature of this system is that all the books available in the library can be displayed in a list so that students need not roam through the entire library to find a book. Additionally, the application effectively maintains the details of users/students to whom books have been issued; it also records the issued date and return date.

Features:

- Add Module: Add, modify and delete book details into the database.
- Search Module: Search feature for finding book availability in library stock.
- Issue Module: Add students records upon issue of a book.

Optional Features:

- Record issue date, return date, and fine (penalty).
- Payment system/feature allows the librarian to calculate payment details and print bill.

Q8. Calculator

Write a Java Program for Calculator Operations Using AWT Controls. Similar to below applet.