

Bank Management System

Assume that a bank maintains two kinds of accounts for its customers, one called a savings account and the other a current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides a check book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed.

Create a class Account that stores customer name, account number and type of account. From this derive the classes Curr-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks:

- (a) Accept deposit from a customer and update the balance.
- (b) Display the balance.
- (c) Compute and deposit interest.
- (d) Permit withdrawal and update the balance.
- (e) Check for the minimum balance, impose penalty, if necessary, and update the balance.

Do not use any constructors. Use methods to initialize the class members.

Course management system

You have to write java code for the course management system. This system includes **Person** and **Course**. A person can be two different types consisting of **Teacher and Student**. Each person has some information like *P_id, name, age*. A teacher has information like *t_id, department, designation, List of courses*. A student has information like *s_id, batch, department, grade, semester, List of courses*. At any moment we have to **show personal information, teacher information and student information**. A course has its related information like

c_id, *c_title*, *credit_hour*. You have to make a class called **CourseManagementSystem** that has information like different arrays of storing person, course, teacher, student. Additionally, it has a function to add a teacher, student and a course. Before adding a course, teacher or a student you have to make an object of course, teacher or student class for corresponding elements. A student can **register a course** and a teacher can be **assigned a course** using functions in Student class and Teacher class respectively. You have to make classes called Person, Teacher, Student, Course and a final class called CourseManagementSystem. You must have to use inheritance.

Library management system

Suppose a book library has two types of books including fiction, and nonfiction books. Fiction includes stories, imagination, mysteries, romance and fantasy. Nonfiction books incorporate Text Books, Reference Books, Religious Books, Scientific Books, Historical Books, Biographies. Library also has some registered users. You have to do the following functionalities.

- Adding a few books and members.
- Borrowing and returning books.
- Displaying details of books and members.