class Account {

    String account\_holder\_name;

    int account\_number;

    private double balance\_left;

    private String password;

    Account(String name, int acn, double bl\_left, String password){

        this.account\_holder\_name = name;

        this.account\_number = acn;

        this.balance\_left = bl\_left;

        this.password = password;

    }

    public void changeBalance(double amount, String password) {

        if (this.password.equals(password)) {

            this.balance\_left += amount;

            System.out.println("Balance updated successfully");

        } else {

            System.out.println("Updatation falled");

        }

    }

    public void get\_balance\_left() {

        System.out.println(balance\_left);

    }

}

public class Main {

    public static void main(String args[]){

        Account a = new Account("Saswath",88878,14.34,"root");

        System.out.println(a.account\_holder\_name);

        System.out.println(a.account\_number);

        // System.out.println(a.balance\_left);

        a.get\_balance\_left();

        a.changeBalance(100, "root");

        a.get\_balance\_left();

        a.changeBalance(10, "123");

        a.get\_balance\_left();

    }

}

class Account {

    String account\_holder\_name;

    int account\_number;

    private double balance\_left;

    private String password;

    Account(String name, int acn, String password){

        this.account\_holder\_name = name;

        this.account\_number = acn;

        this.balance\_left = 0;

        this.password = password;

    }

    void getBalance(String password){

        if(this.password == password){

            System.out.println(this.balance\_left);

        }

        else {

            System.out.println("Incorrect Password");

        }

    }

    private boolean authenticate(String password){

        if(this.password == password){

            return true;

        }

        else {

            return false;

        }

    }

    void updateBalance(int type, double amount, String password){

        if(authenticate(password)){

            if(type==0) {

                // 0 = debit

                if (amount < this.balance\_left) {

                    this.balance\_left -= amount;

                } else {

                    System.out.println("Insufficient balance");

                    return;

                }

            }

            else {

                // 1 = credit

                this.balance\_left = this.balance\_left + amount;

            }

        }

        else {

            System.out.println("Incorrect Password");

        }

    }

    void setPassword(String oldPassword, String newPassword) {

        if (oldPassword.equals(this.password)) {

            password = newPassword;

            System.out.println("New password updated");

        } else {

            System.out.println("Incorrect Password");

        }

    }

}

public class Main {

    public static void main(String args[]){

        Account a = new Account("Saswath",88878,"12345pass");

        System.out.println(a.account\_holder\_name);

        System.out.println(a.account\_number);

        a.updateBalance(1,1000.00,"12345pass");

        a.updateBalance(1,1000.00,"12345pss");

        a.updateBalance(0,105.00,"12345pass");

        a.getBalance("12345pass");

        a.setPassword("12345pass", "root");

        a.getBalance("12345pass");

        a.getBalance("root");

        a.updateBalance(0, 5000.0, "root");

    }

}

**Employee**

* - Name
* - Designation
* - Manager (Employee attribute)

displayInfo();

addManager();

class Employee {

    String Name;

    String Designation;

    Employee Manager;

    public Employee(String Name, String Designation) {

        this.Name = Name;

        this.Designation = Designation;

    }

    void displayInfo() {

        String managerName;

        if (this.Manager != null) {

            managerName = this.Manager.Name;

        } else {

            managerName = "Not Assigned";

        }

        System.out.println("Employee Name: " + this.Name + "\nDesignation: " + this.Designation + "\nManager Name: " + managerName);

        // if (this.Manager != null){

        //     System.out.println("Employee Name: " + this.Name + "\nDesignation: " + this.Designation + "\nManager Name: " + this.Manager.Name);

        // } else {

        //     System.out.println("Employee Name: " + this.Name + "\nDesignation: " + this.Designation + "\nManager Name: Not Assigned");

        // }

    }

    void addManager(Employee manager) {

        this.Manager = manager;

    }

}

public class Main {

    public static void main(String[] args) {

        Employee e1 = new Employee("Rohith Reddy", "SDE1");

        Employee e2 = new Employee("Kranthi Goud", "QA");

        Employee e3 = new Employee("Alfred", "Sr Manager");

        Employee e4 = new Employee("Anukriti", "Manager");

        e1.addManager(e4);

        e1.displayInfo();

        System.out.println();

        e2.displayInfo();

        System.out.println();

        e4.addManager(e3);

        e4.displayInfo();

        System.out.println();

        e3.addManager(e3);

        e3.displayInfo();

    }

}

**Library**

* private ArrayList<Book>

addBook()

removeBook()

import java.util.ArrayList;

class Book {

    String name;

    Book (String name) {

        this.name = name;

    }

}

class Library {

    private ArrayList<Book> b = new ArrayList<>();

    void addBook(String bName) {

        b.add(new Book(bName));

    }

    void removeBook(String bName) {

        for (int i = 0; i < b.size(); i++) {

            if (bName == b.get(i).name) {

                b.remove(i);

                return;

            }

        }

        System.out.println("Book Not Found");

    }

    void display() {

        for (int i = 0; i < b.size(); i++) {

            System.out.println(b.get(i).name);

        }

    }

}

public class Main {

    public static void main(String[] args) {

        Library l = new Library();

        l.addBook("Super 30");

        l.addBook("Rich Dad Poor Dad");

        l.display();

        l.removeBook("Super 30");

        l.display();

        l.removeBook("abc");

    }

}

import java.util.ArrayList;

import java.util.List;

class Book {

    String title;

    Book(String title){

        this.title = title;

    }

}

class Library {

    private List<Book> books;

    Library(){

        books =  new ArrayList<>();

    }

    void displayBooks(){

        for(int i=0;i<books.size();i++){

            System.out.println(books.get(i).title);

        }

    }

    void addBook(Book book){

        books.add(book);

    }

    void removeBook(Book book){

        for(int i=0;i<books.size();i++){

            if(book==books.get(i)){

                books.remove(i);

                return;

            }

        }

        System.out.println("Book not found");

    }

    //or books.remove(book);

}

public class Main {

    public static void main(String args[]){

        Book book1 = new Book("Song of ice and fire");

        Book book2 = new Book("Secret History");

        Library library = new Library();

        library.addBook(book1);

        library.addBook(book2);

        library.displayBooks();

    }

}

**Print all books written by Author**

import java.util.ArrayList;

class Book {

    String name;

    String author;

    Book (String name, String author) {

        this.name = name;

        this.author = author;

    }

}

class Library {

    private ArrayList<Book> b = new ArrayList<>();

    void addBook(String bName, String aName) {

        b.add(new Book(bName, aName));

    }

    void display() {

        for (int i = 0; i < b.size(); i++) {

            System.out.println("Book Name: " + b.get(i).name + " Writte By: " + b.get(i).author);

        }

    }

    void booksByAuthor(String aName) {

        boolean flag = false;

        for (Book book : this.b) {

            if (book.author == aName) {

                System.out.println("Book Name: " + book.name + " Written By: " + book.author);

                flag = true;

            }

        }

        if (!flag) {

            System.out.println("No entries for the given Author");

        }

    }

}

public class Main {

    public static void main(String[] args) {

        Library l = new Library();

        l.addBook("Super 30", "Anand Kumar");

        l.addBook("Rich Dad Poor Dad", "Robert Kiyosaki");

        l.addBook("Fake", "Robert Kiyosaki");

        // l.display();

        l.booksByAuthor("Robert Kiyosaki");

        l.booksByAuthor("Rohith");

    }

}

https://stackabuse.com/guide-to-interfaces-in-java/

interface Employee {

    public void work();

}

class Dev implements Employee {

    public void work() {

        System.out.println("Develops Product");

    }

}

class Qa implements Employee {

    public void work() {

        System.out.println("Validates Product");

    }

}

public class Main {

    public static void main(String[] args) {

        Employee dev = new Dev();

        Employee qa = new Qa();

        dev.work();

        qa.work();

    }

}