1. Design and write a class to represent a bank account that includes the following members:
   a. Data members
      • Owner name
      • Account number
      • Balance amount in the account
   b. Methods members
      • To assign initial values
      • To deposit an amount
      • To withdraw an amount after checking balance
      • To display the owner name and balance

Sample Answer:

class BankAccount
{
    String ownerName;
    String accNumber;
    double balance;

    public void setOwner (String name)
    {
        ownerName = name;
    }
    public void setNumber (String number)
    {
        accNumber = number;
    }
    public void setBalance (double amount)
    {
        if (amount >= 0) {
            balance = amount;
        }
        else
            System.out.println("Error: Invalid amount!");
    }
    public void deposit (double amount)
    {
        if (amount > 0) {
            balance += amount;
        }
        else
            System.out.println("Error: Invalid amount!");
}
public void withdraw (double amount)
{
    if (amount > 0 && amount < balance)
    {
        balance -= amount;
    }
    else
        System.out.println("Error: Insufficient found or invalid amount!");
}
public void display ()
{
    System.out.println(“Account owner’s name: ” +
    ownerName);
    System.out.println(“Account balance: ” + balance);
}

2. Modify the above class to incorporate a constructor to provide initial values.

Sample Answer:

class BankAccount
{
    String ownerName;
    String accNumber;
    double balance;

    BankAccount (String name, String number, double amount)
    {
        ownerName = name;
        accNumber = number;
        if (amount >= 0) {
            balance = amount;
        } else
            System.out.println("Error: Invalid amount!");
    }
    public void deposit (double amount)
    {
        if (amount > 0) {
            balance += amount;
        } else
            System.out.println("Error: Invalid amount!");
    }
    public void withdraw (double amount)
    {
        if (amount > 0 && amount < balance)
        {
            balance -= amount;
        } else
            System.out.println("Error: Insufficient found or invalid amount!");
    }
}
System.out.println("Error: Insufficient found or invalid amount!");
}
public void display ()
{
    System.out.println ("Account owner’s name: " +
          ownerName);
    System.out.println ("Account balance: " + balance);
}

3. Write a main method for the above class that reads in the initial values from the keyboard.

Sample Answer:

```java
import java.util.*;
import java.io.*;

class BankAccount {
    String ownerName;
    String accNumber;
    double balance;
    ...
    ...
    ...
    static DataInputStream dis = new DataInputStream(System.in);
    static StringTokenizer st;

    public static void main(String[] args) throws IOException {
        System.out.print("Please enter an account number: ");
        st = new StringTokenizer(dis.readLine());
        String num = new String(st.nextToken());

        System.out.print("Please enter the owner's name: ");
        String name = new String (dis.readLine());

        System.out.print("Please enter the balance: ");
        st = new StringTokenizer(dis.readLine());
        double blns = new Double (st.nextToken()).doubleValue();

        BankAccount acc = new BankAccount(name, num, blns);
        acc.display();
        acc.deposit(blns);
        acc.display();
        acc.withdraw(2*blns);
        acc.display();
        acc.withdraw(blns);
        acc.display();
```