

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

```
class BankAccount implements Serializable {
    private String accountNumber;
    private String accountHolderName;
    private double balance;

    public BankAccount(String accountNumber, String accountHolderName, double balance) {
        this.accountNumber = accountNumber;
        this.accountHolderName = accountHolderName;
        this.balance = balance;
    }

    public String getAccountNumber() {
        return accountNumber;
    }

    public String getAccountHolderName() {
        return accountHolderName;
    }

    public double getBalance() {
        return balance;
    }

    public void deposit(double amount) {
        balance += amount;
    }

    public void withdraw(double amount) {
```

```

    if (balance >= amount) {
        balance -= amount;
    } else {
        System.out.println("Insufficient balance.");
    }
}

```

```

@Override
public String toString() {
    return "Account Number: " + accountNumber + "\nAccount Holder Name: " +
accountHolderName
        + "\nBalance: $" + balance;
}
}

```

```

class BankManager {
    private ArrayList<BankAccount> bankAccounts;
    private String fileName;

    public BankManager(String fileName) {
        this.fileName = fileName;
        bankAccounts = new ArrayList<>();
        loadAccountsFromFile();
    }

    public void createAccount(String accountNumber, String accountHolderName, double balance) {
        BankAccount bankAccount = new BankAccount(accountNumber, accountHolderName, balance);
        bankAccounts.add(bankAccount);
        saveAccountsToFile();
        System.out.println("Account created successfully.");
    }
}

```

```
public BankAccount getAccount(String accountNumber) {  
    for (BankAccount account : bankAccounts) {  
        if (account.getAccountNumber().equals(accountNumber)) {  
            return account;  
        }  
    }  
    return null;  
}
```

```
public void deposit(String accountNumber, double amount) {  
    BankAccount account = getAccount(accountNumber);  
    if (account != null) {  
        account.deposit(amount);  
        saveAccountsToFile();  
        System.out.println("Amount deposited successfully.");  
    } else {  
        System.out.println("Account not found.");  
    }  
}
```

```
public void withdraw(String accountNumber, double amount) {  
    BankAccount account = getAccount(accountNumber);  
    if (account != null) {  
        account.withdraw(amount);  
        saveAccountsToFile();  
        System.out.println("Amount withdrawn successfully.");  
    } else {  
        System.out.println("Account not found.");  
    }  
}
```

```
public void displayAccountDetails(String accountNumber) {  
    BankAccount account = getAccount(accountNumber);  
    if (account != null) {  
        System.out.println(account.toString());  
    } else {  
        System.out.println("Account not found.");  
    }  
}
```

```
private void saveAccountsToFile() {  
    try {  
        FileOutputStream fos = new FileOutputStream(fileName);  
        ObjectOutputStream oos = new ObjectOutputStream(fos);  
        oos.writeObject(bankAccounts);  
        oos.close();  
        fos.close();  
    } catch (IOException e) {  
        System.out.println("Failed to save accounts to file: " + e.getMessage());  
    }  
}
```

```
private void loadAccountsFromFile() {  
    try {  
        FileInputStream fis = new FileInputStream(fileName);  
        ObjectInputStream ois = new ObjectInputStream(fis);  
        bankAccounts = (ArrayList<BankAccount>) ois.readObject();  
        ois.close();  
        fis.close();  
    } catch (IOException | ClassNotFoundException e) {  
        // Ignore if file does not exist or is empty  
    }  
}
```

```
    }  
    }  
}
```

```
public class BankingManagementSystem {  
    public static void main(String[] args) {  
        BankManager bankManager = new BankManager("accounts.dat"); // Initialize BankManager  
        with the filename for data persistence
```

```
        Scanner scanner = new Scanner(System.in);
```

```
        while (true) {  
            System.out.println("Banking Management System");  
            System.out.println("1. Create Account");  
            System.out.println("2. Deposit");  
            System.out.println("3. Withdraw");  
            System.out.println("4. Display Account Details");  
            System.out.println("5. Exit");  
            System.out.print("Enter your choice: ");  
            int choice = scanner.nextInt();  
            scanner.nextLine(); // Consume newline character
```

```
            switch (choice) {  
                case 1:  
                    System.out.print("Enter Account Number: ");  
                    String accountNumber = scanner.nextLine();  
                    System.out.print("Enter Account Holder Name: ");  
                    String accountHolderName = scanner.nextLine();  
                    System.out.print("Enter Initial Balance: ");  
                    double balance = scanner.nextDouble();  
                    bankManager.createAccount(accountNumber, accountHolderName, balance);
```

```
        break;
    case 2:
        System.out.print("Enter Account Number: ");
        accountNumber = scanner.nextLine();
        System.out.print("Enter Deposit Amount: ");
        double depositAmount = scanner.nextDouble();
        bankManager.deposit(accountNumber, depositAmount);
        break;
    case 3:
        System.out.print("Enter Account Number: ");
        accountNumber = scanner.nextLine();
        System.out.print("Enter Withdraw Amount: ");
        double withdrawAmount = scanner.nextDouble();
        bankManager.withdraw(accountNumber, withdrawAmount);
        break;
    case 4:
        System.out.print("Enter Account Number: ");
        accountNumber = scanner.nextLine();
        bankManager.displayAccountDetails(accountNumber);
        break;
    case 5:
        System.out.println("Thank you for using Banking Management System!");
        System.exit(0);
        break;
    default:
        System.out.println("Invalid choice. Please try again.");
    }
}
}
```