End Term Project Report

On

Introduction to Databases (CSE 3151)

Submitted by

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Branch	: CSE
Semester	: 6TH SEMESTER
Section	: K (11)
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Admission Batch	: 2021

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
FACULTY OF ENGINEERING & TECHNOLOGY (ITER)
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BHUBANESWAR, ODISHA – 751030

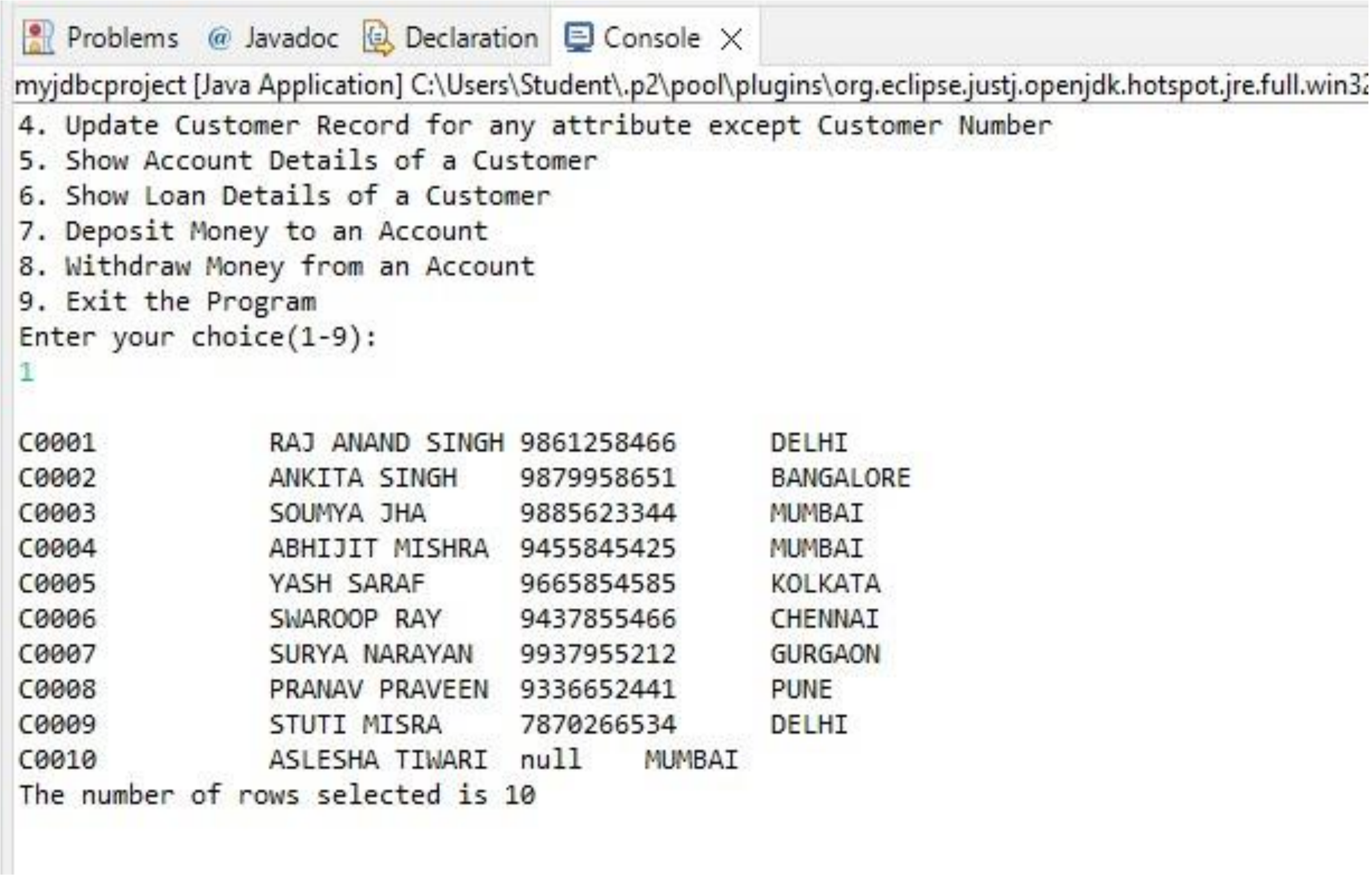
```
import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.sql.*;

public class myjdbcProject {
    public static void Main(String[] args) {
        Connection con = null;
        Statement stmt = null;

        try {
            Class.forName("com.microsoft.sqlserver.jdbc.SQLServerDriver");
            String conurl = "jdbc:sqlserver://localhost:1433;database";
            con = DriverManager.getConnection(conurl, "S431302546778", "123456");
            System.out.println("Connection Established");
            stmt = con.createStatement();
            BufferedReader br = new BufferedReader(new
InputStreamReader(System.in));
            int ch = 0;



            do {

                System.out.println("\n\n ** Banking Management System **");

                System.out.println("1. Show Customer Records");
                System.out.println("2. Add Customer Records");
                System.out.println("3. Delete Customer Records");
                System.out.println("4. Update Customer Records for any attribute
except Customer Number");
                System.out.println("5. Show Account Details of a Customer");
                System.out.println("6. Show Loan Details of a Customer");
                System.out.println("7. Deposit Money to an Account");
                System.out.println("8. Withdraw Money from an Account");
                System.out.println("9. Exit the Program");

                System.out.println("Enter your choice (0-9): ");
                // User input
                ch = Integer.parseInt(br.readLine());
                switch(ch) {
                    case 1:
                        String sqlstr = "SELECT * FROM Customer";
                        ResultSet rs = stmt.executeQuery(sqlstr);
                        int a = 0;
                        while (rs.next()) {
                            System.out.print("\n"+ rs.getString("Cust_No")+"\t");
                            System.out.print("\t" + rs.getString("City"));
                            a++;
                        }
                        System.out.println();
                        System.out.println("The number of rows selected is " +
a);

                        break;

                    case 2:
                        System.out.println("Enter Customer Number: ");
                        String cust_no = br.readLine();
                        System.out.println("Enter Customer Name: ");
                        String name = br.readLine();
                        System.out.println("Enter phone no: ");
                        long phone = Long.parseLong(br.readLine());
                        System.out.println("Enter city: \t");
                        String city = br.readLine();

                        String insertstmt = "INSERT INTO Customer VALUES ('" +
cust_no + "', '" + name + "', " + phone + ", '" + city + "')";
                        int n = stmt.executeUpdate(insertstmt);
                        System.out.println(n + "Row Inserted");
                        break;



                    case 3:
                        System.out.println("Enter a cust_no for deletion: \t");
                        String cust = br.readLine();
                        String deletestmt = "delete from customer where cust_no =
" + cust + "''";

                        n = stmt.executeUpdate(deletestmt);
                        System.out.println(n+"Row deleted");
                        break;
```

```
                   case 4:

                        System.out.println("Enter1: For Name2: For Phone no3: For
City to update: ");
                        int cl = Integer.parseInt(br.readLine());

                        switch (cl) {
                            case 1:
                                System.out.println("Enter Cust_No: ");
                                cust_no = br.readLine();
                                System.out.println("Enter updated name: ");
                                String updatedName = br.readLine();
                                String queryupdateName = "Update Customer set
Name = '" + updatedName + "'WHERE cust_no = '" + cust_no + "'";
                                n = stmt.executeUpdate(queryupdateName);
                                System.out.println(n + "Updated successfully");
                                break;

                            case 2:
                                System.out.println("Enter cust no: ");
                                cust_no = br.readLine();
                                System.out.println("Enter updated phone: ");
                                long updatedPhone =
Long.parseLong(br.readLine());
                                String queryupdatePhone = "UPDATE Customer SET
Name = '" + updatedPhone + "'WHERE Cust_no '" + cust_no + "'";
                                n = stmt.executeUpdate(queryupdatePhone);
                                System.out.println(n + "Updated Successfully");
                                break;

                            case 3:
                                System.out.println("Enter Cust No: ");
                                cust_no = br.readLine();
                                System.out.println("Enter updated city: ");
                                String updatedCity = br.readLine();
                                String queryupdateCity = "UPDATE Customer SET
Name = '" + updatedCity + "' WHERE Cust_no = '" + cust_no + "'";
                                n = stmt.executeUpdate(queryupdateCity);
                                System.out.println(n + "Updated Successfully");
                                break;
                        }
                        break;
                   case 5:

                        System.out.println("Enter Cust no: ");
                        cust_no = br.readLine();
                        String queryAccDetails = "SELECT A.ACCOUNT NO, A.TYPE,
A.BALANCE, B.BRANCH_CODE, B.BRANCH_NAME, B.BRANCH_CITY FROM Account A, Branch B,
Customer C, Depositor D WHERE D.Account_No = A.Account_no AND
A.Branch_Code=B.Branch_Code AND C.Cust_no=D.Cust_No AND C.Cust_No='" + cust_no +
"'";
                        rs = stmt.executeQuery(queryAccDetails);
                        System.out.format("Acc.No.: \t Type: \t Balance: \t
Branch Code: \t Branch Name: \t\t Branch Ciyt: \n");

                        while (rs.next()) {
                            String account_no = rs.getString("Account_No");
                            String type = rs.getString("TYPE");
                            Long balance = rs.getLong("BALANCE");
                            String branch_code = rs.getString("BRANCH_CODE");
                            String branch_name = rs.getString("BRANCH_NAME");
                            String branch_city = rs.getString("BRANCH_CITY");
                            System.out.format("%s\t\t%s\t%d\t\t%s\t\t%s\t%s\t\n",
account_no, type, balance, branch_code, branch_name, branch_city);
                        }
                        break;

                    case 6:
                        System.out.println("Enter Cust No: ");
                        cust_no = br.readLine();
                        String queryLoanNumber = "SELECT C.* L.Loan_No, L.Amount,
B.* FROM Loan L, Customer C, Branch B WHERE L.Branch_Code=B.Branch_Code AND
C.Cust_No=L.Cust_No AND C.Cust_No='" + cust_no + "'";
                        rs = stmt.executeQuery(queryLoanNumber);
                        System.out.println(rs + "no of rows affected");

                        while (rs.next()) {
                            String ccust = rs.getString("CUST_NO");
                            String cname = rs.getString("NAME");
                            Long cphone = rs.getLong("PHONE_NO");
                            String ccity = rs.getString("CITY");
                            String loan_no = rs.getString("LOAN_NO");
                            Long amount = rs.getLong("AMOUNT");
                            String branch_code = rs.getString("BRANCH_CODE");
                            String branch_name = rs.getString("BRANCH_NAME");
                            String branch_city = rs.getString("BRANCH_CITY");
```

```
              System.out.println("Loan No.: \t Cust No.: \t Amount:
\t Branch Code\n");
              System.out.format("%s %s %d %s %s %d %s %s %s \n",
ccust, cname, cphone, ccity, loan_no, amount, branch_code, branch_name,
branch_city);
            }
            break;



         case 7:

            System.out.println("Enter Account No");
            String acc_no = br.readLine();
            System.out.println("Enter the amount to deposite");
            long amt = Long.parseLong(br.readLine());

            String queryAddMoney = "UPDATE Account SET
Balance=Balance + " + amt + "WHERE Account_No='" + acc_no + "'";
            n = stmt.executeUpdate(queryAddMoney);
            System.out.println(n + "Balance Updated");
            break;

          case 8:
            System.out.println("Enter Account No"); acc_no =
br.readLine();
            System.out.println("Enter the amount to deposite"); amt =
Long.parseLong(br.readLine());
            String queryCheckBalance = "SELECT Balance FROM Account
WHERE Account_No = '" + acc_no +"'";
            rs = stmt.executeQuery(queryCheckBalance);

            while (rs.next()) {
              long bal = rs.getInt(1);
              if (amt <= bal) {
                String querySubMoney = "UPDATE Account SET
Balance=Balance -" + amt + "WHERE Account_No= '" + acc_no + "'";
                n = stmt.executeUpdate(querySubMoney);
                System.out.println(n + "Balance Updated");
              } else {
                System.out.println("Insufficient balance");
              }
            }
            break;
```

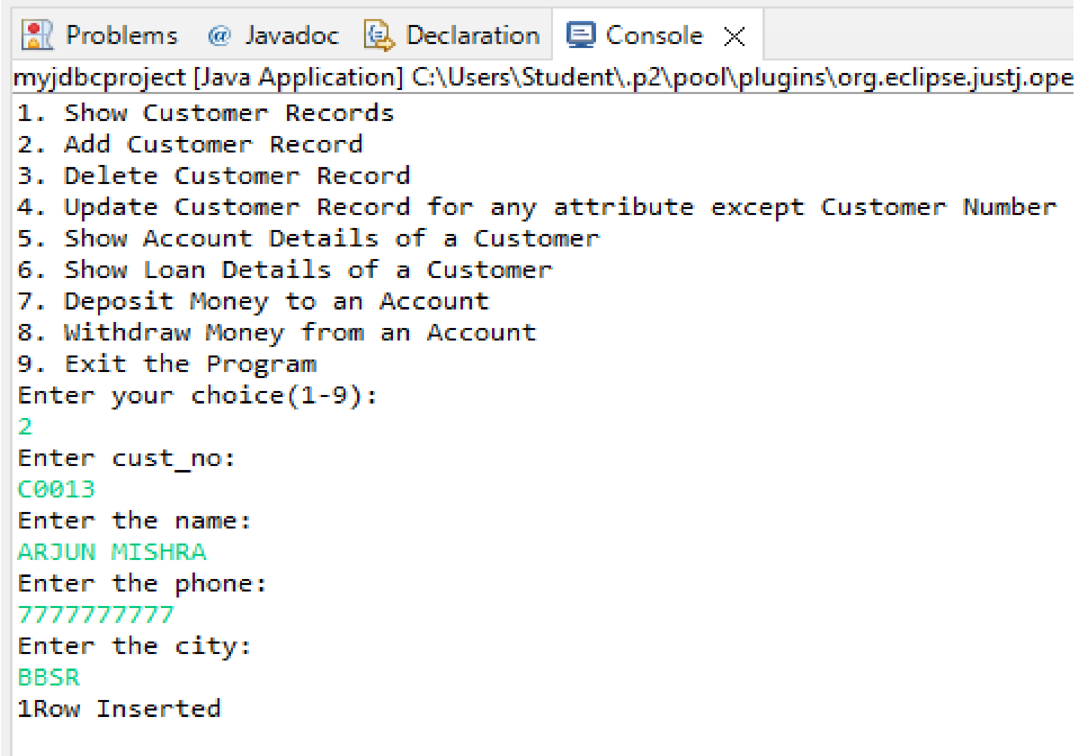
```
                    case 9:
                        System.out.println("Visit us next time");
                        stmt.close();
                        con.close();
                        System.exit(0);
                        break;


                   default:
                        System.out.println("Enter from 1 to 9 nothing else please 
again");
                        break;
                }

            } while (ch != 9);
        } catch (Exception e) {
            System.out.println(e);
        } finally {
            try {
                stmt.close();
                con.close();
            } catch (Exception e) {
                System.out.println(e);
            }
        }
    }
}
```

1.

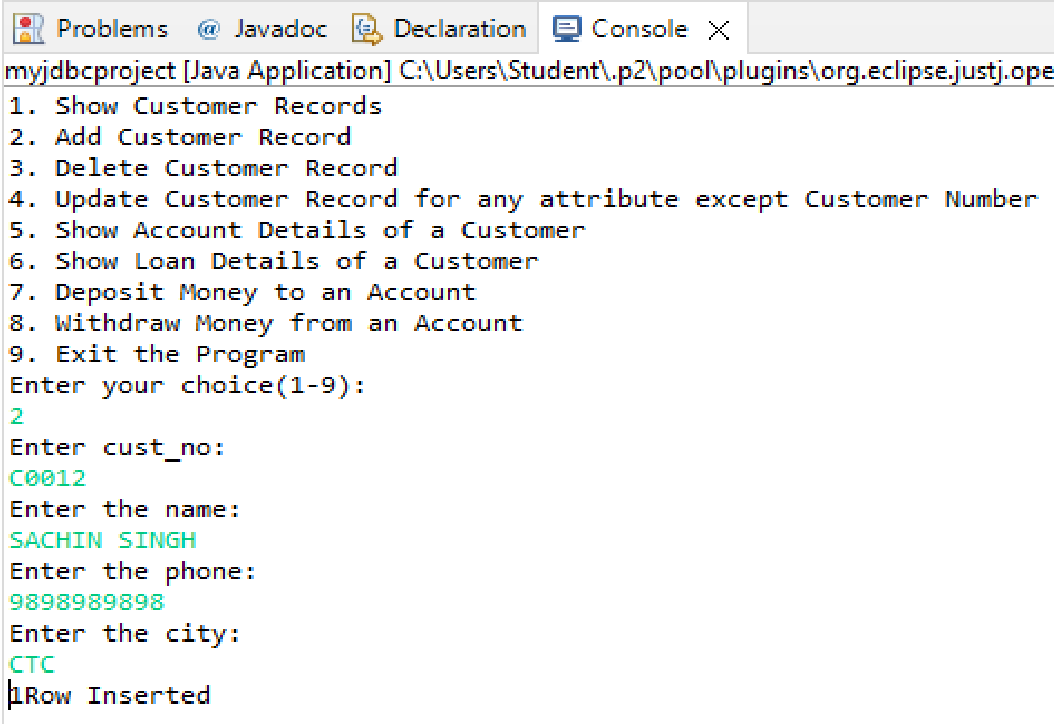


```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
1

C0001           RAJ ANAND SINGH 9861258466      DELHI
C0002           ANKITA SINGH    9879958651      BANGALORE
C0003           SOUMYA JHA      9885623344      MUMBAI
C0004           ABHIJIT MISHRA  9455845425      MUMBAI
C0005           YASH SARAF      9665854585      KOLKATA
C0006           SWAROOP RAY     9437855466      CHENNAI
C0007           SURYA NARAYAN   9937955212      GURGAON
C0008           PRANAV PRAVEEN  9336652441      PUNE
C0009           STUTI MISRA     7870266534      DELHI
C0010           ASLESHA TIWARI  null    MUMBAI
The number of rows selected is 10
```

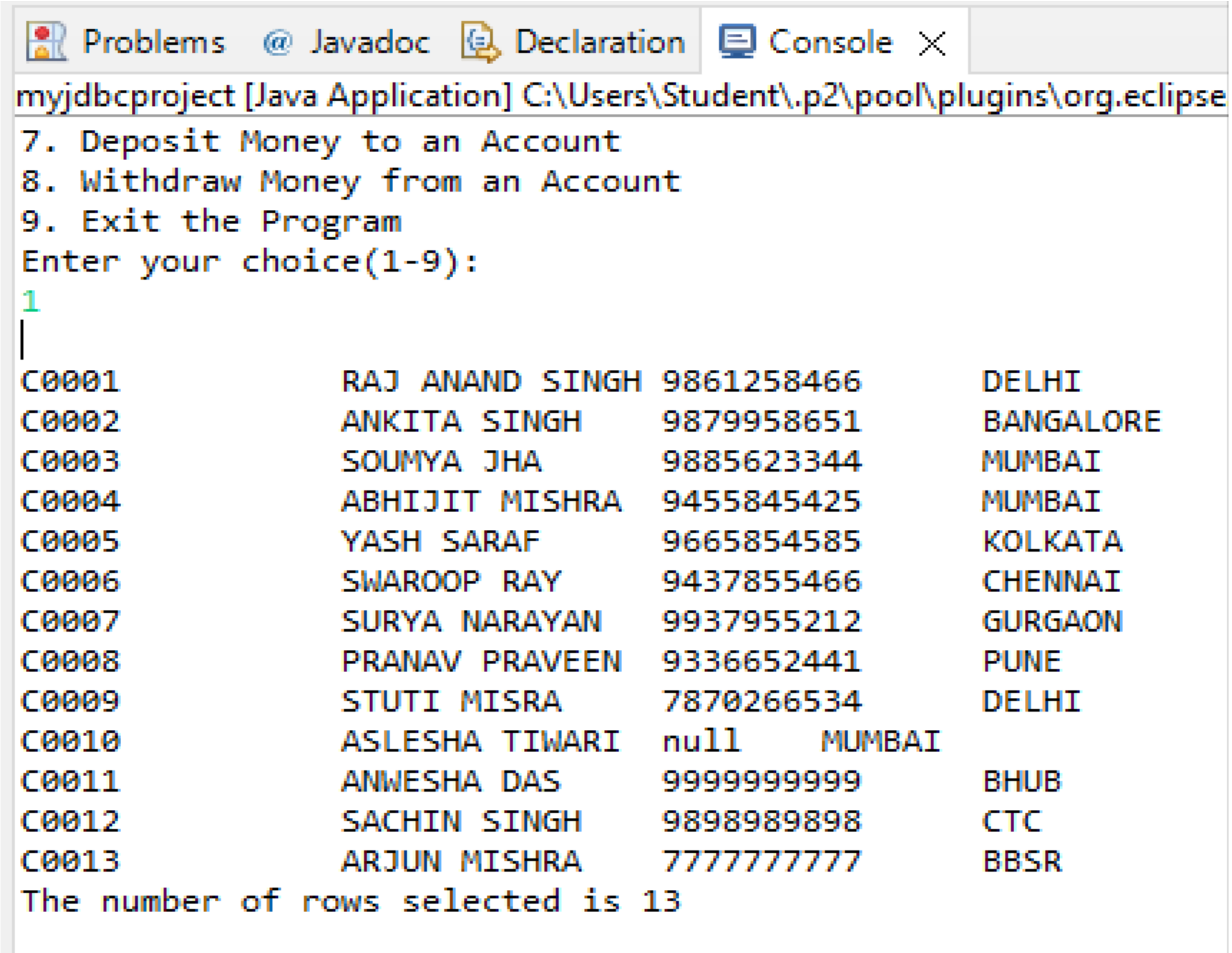
2.



```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.ope
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
2
Enter cust_no:
C0013
Enter the name:
ARJUN MISHRA
Enter the phone:
7777777777
Enter the city:
BBSR
1Row Inserted
```



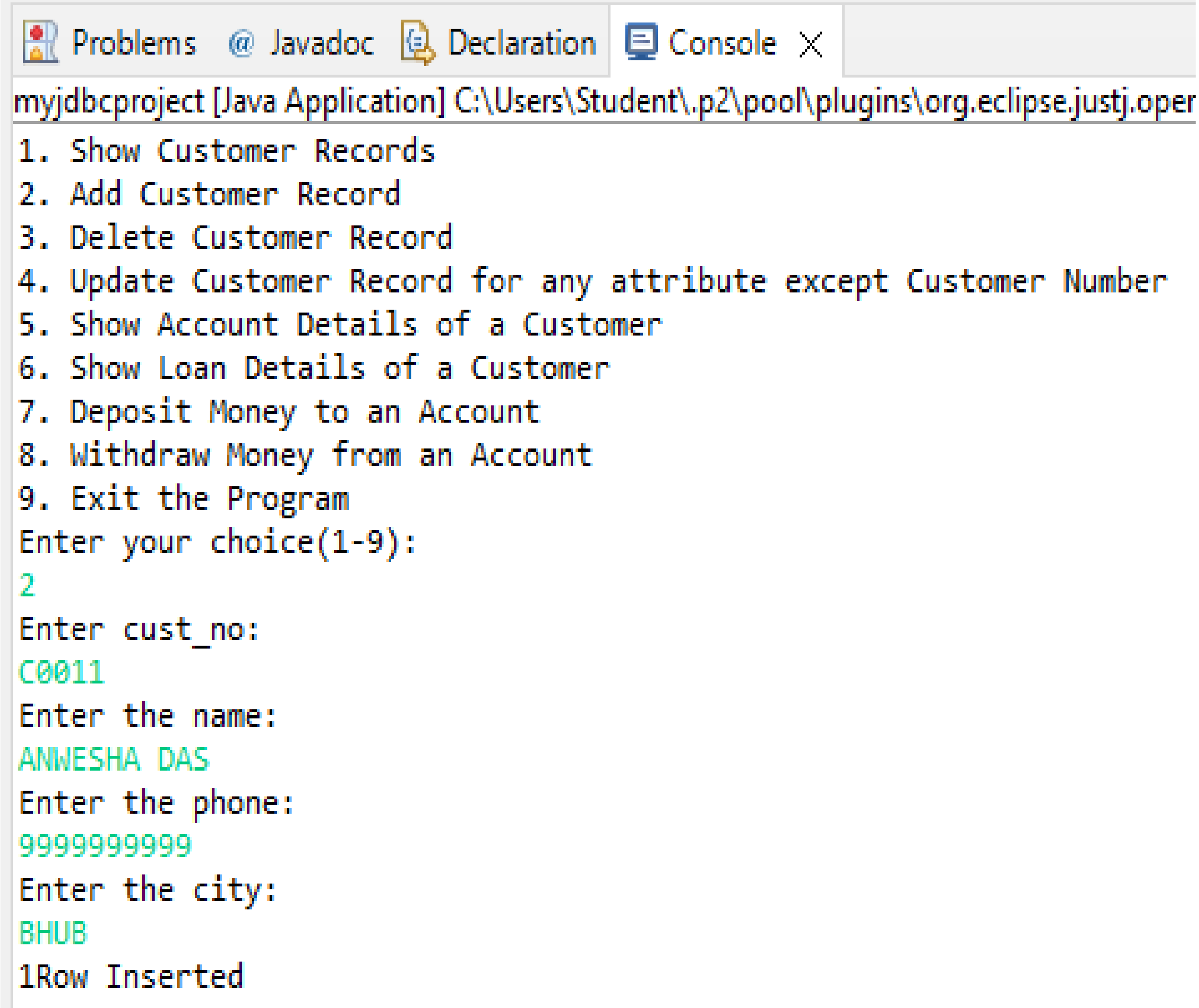
```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.ope
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
2
Enter cust_no:
C0012
Enter the name:
SACHIN SINGH
Enter the phone:
9898989898
Enter the city:
CTC
1Row Inserted
```



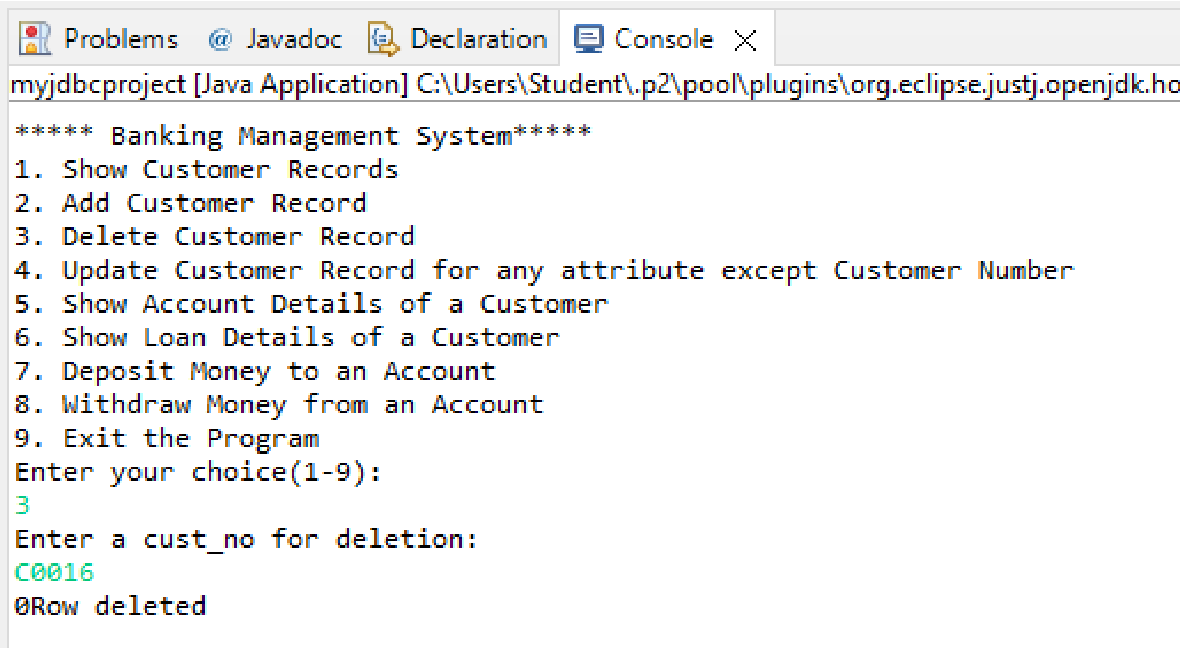
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse

```
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
1

C0001           RAJ ANAND SINGH 9861258466      DELHI
C0002           ANKITA SINGH    9879958651      BANGALORE
C0003           SOUMYA JHA      9885623344      MUMBAI
C0004           ABHIJIT MISHRA  9455845425      MUMBAI
C0005           YASH SARAF      9665854585      KOLKATA
C0006           SWAROOP RAY     9437855466      CHENNAI
C0007           SURYA NARAYAN   9937955212      GURGAON
C0008           PRANAV PRAVEEN  9336652441      PUNE
C0009           STUTI MISRA     7870266534      DELHI
C0010           ASLESHA TIWARI  null    MUMBAI
C0011           ANWESHA DAS     9999999999      BHUB
C0012           SACHIN SINGH    9898989898      CTC
C0013           ARJUN MISHRA    7777777777      BBSR
The number of rows selected is 13
```

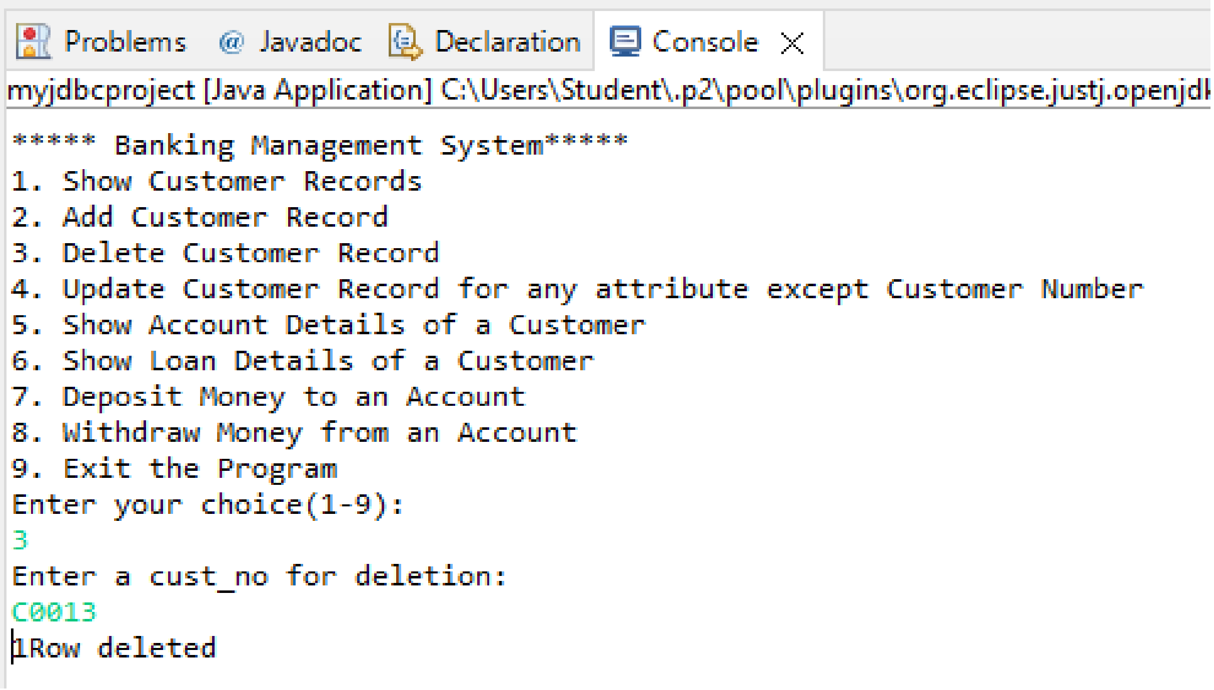
3.



```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.oper
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
2
Enter cust_no:
C0011
Enter the name:
ANWESHA DAS
Enter the phone:
9999999999
Enter the city:
BHUB
1Row Inserted
```

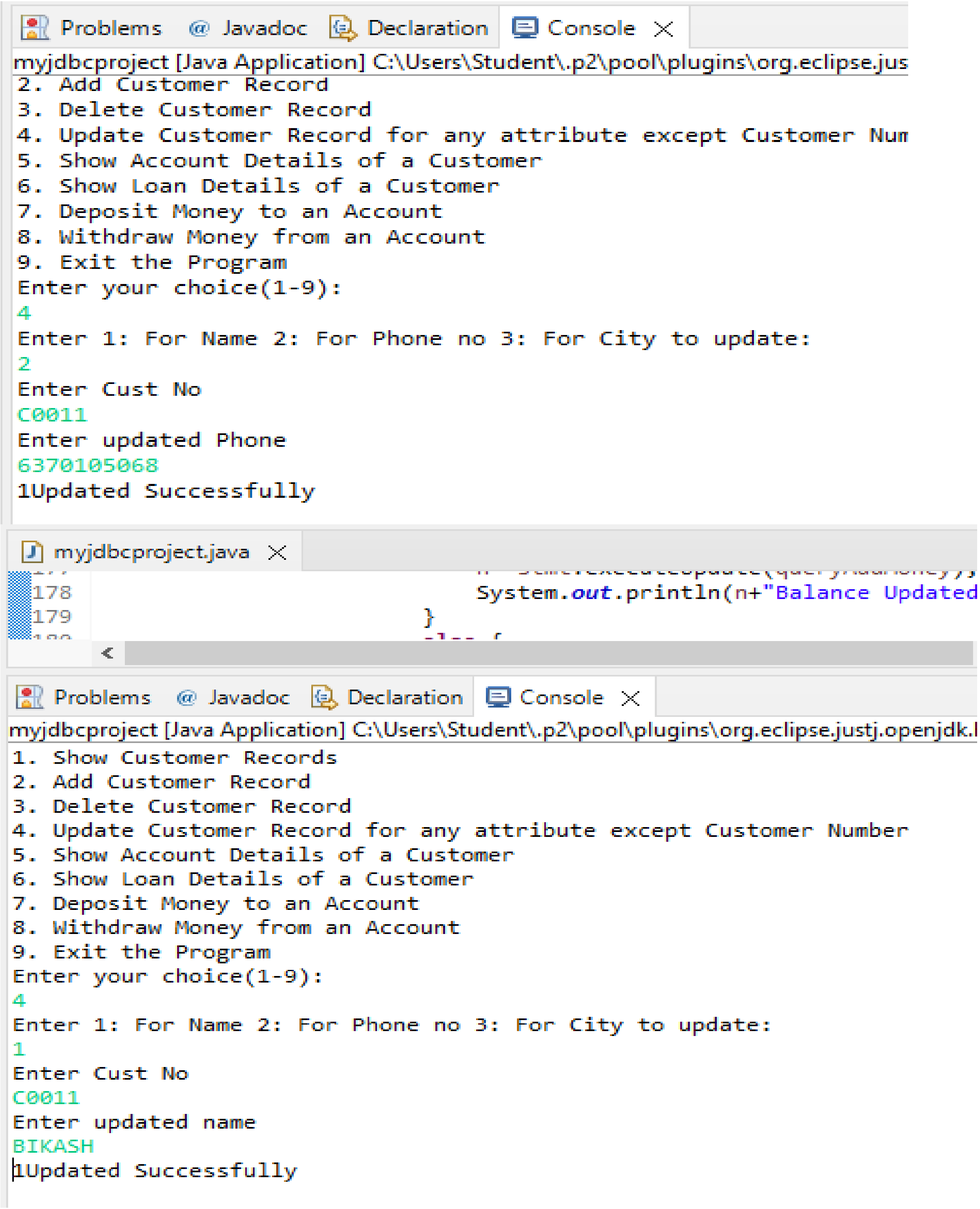


```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.ho
***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
3
Enter a cust_no for deletion:
C0016
0Row deleted
```



```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk
***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
3
Enter a cust_no for deletion:
C0013
1Row deleted
```

4.



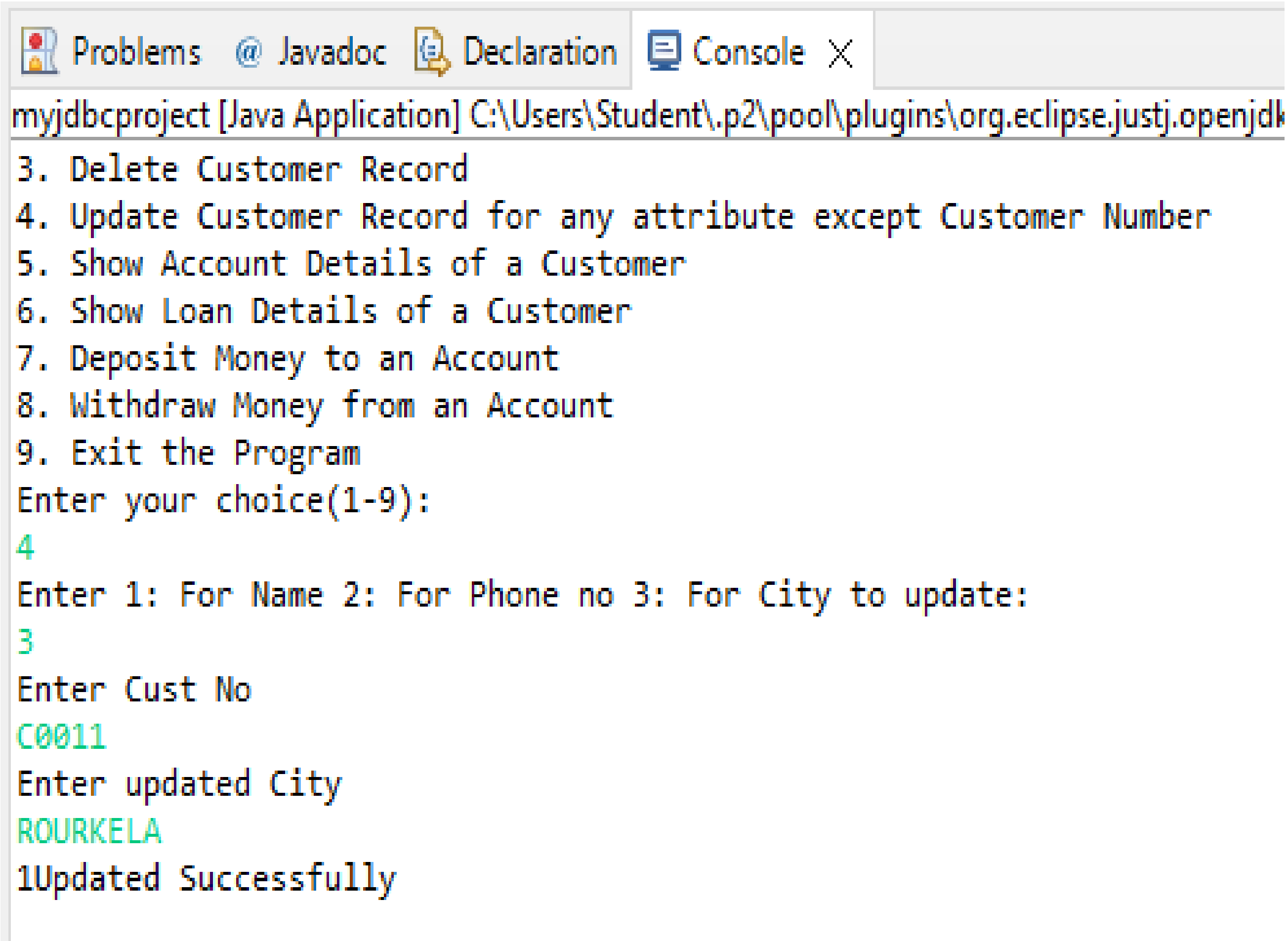
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.jus

```
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Num
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
4
Enter 1: For Name 2: For Phone no 3: For City to update:
2
Enter Cust No
C0011
Enter updated Phone
6370105068
1Updated Successfully
```

```
                         System.out.println(n+"Balance Updated
                     }
```

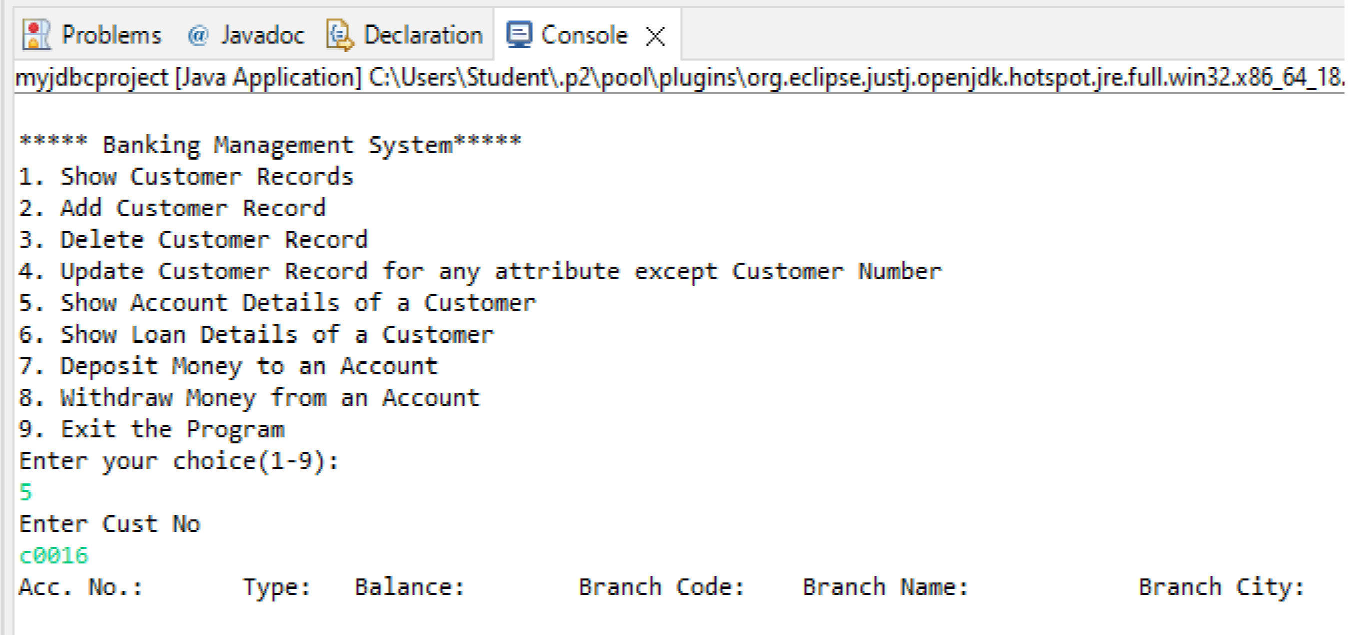
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.l

```
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
4
Enter 1: For Name 2: For Phone no 3: For City to update:
1
Enter Cust No
C0011
Enter updated name
BIKASH
1Updated Successfully
```

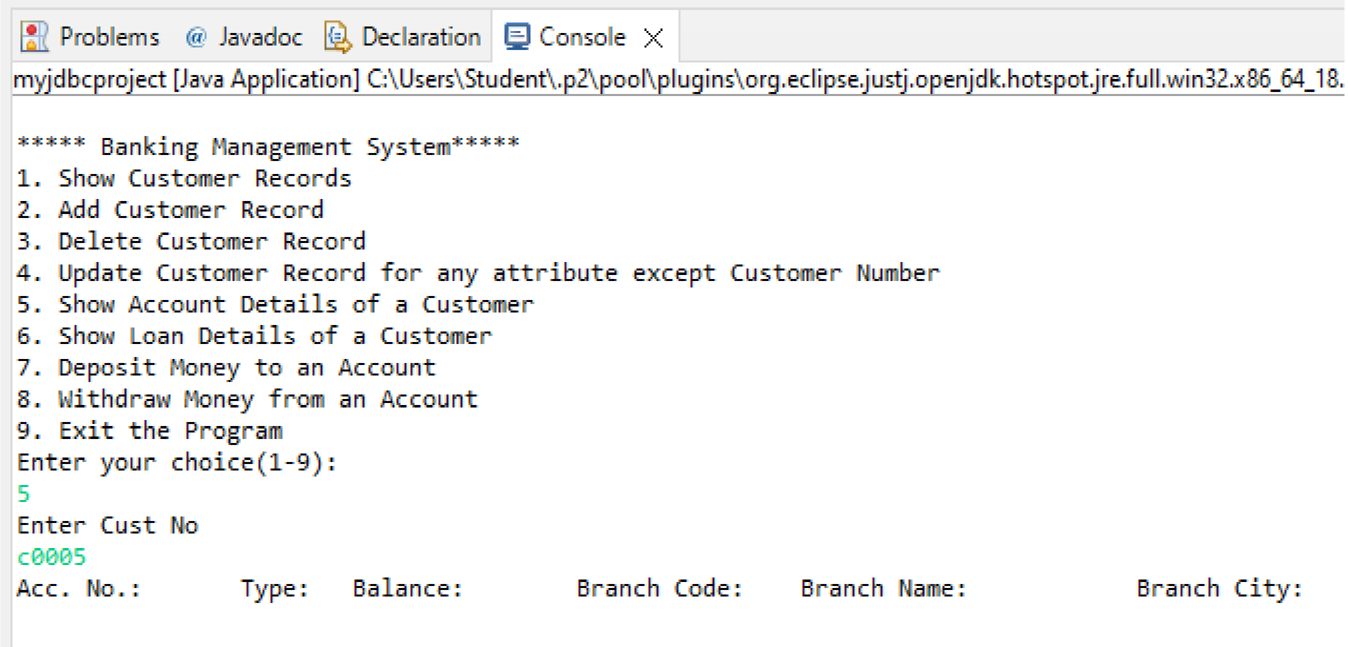


```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
4
Enter 1: For Name 2: For Phone no 3: For City to update:
3
Enter Cust No
C0011
Enter updated City
ROURKELA
1Updated Successfully
```

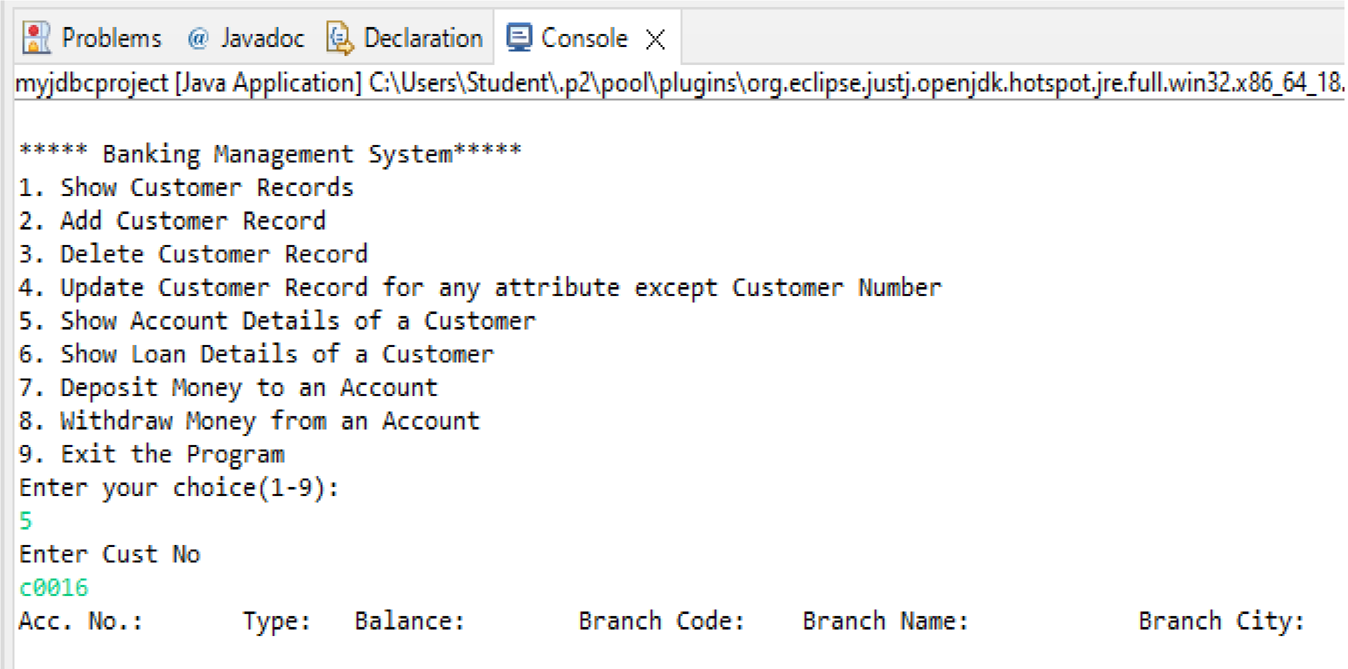
5.



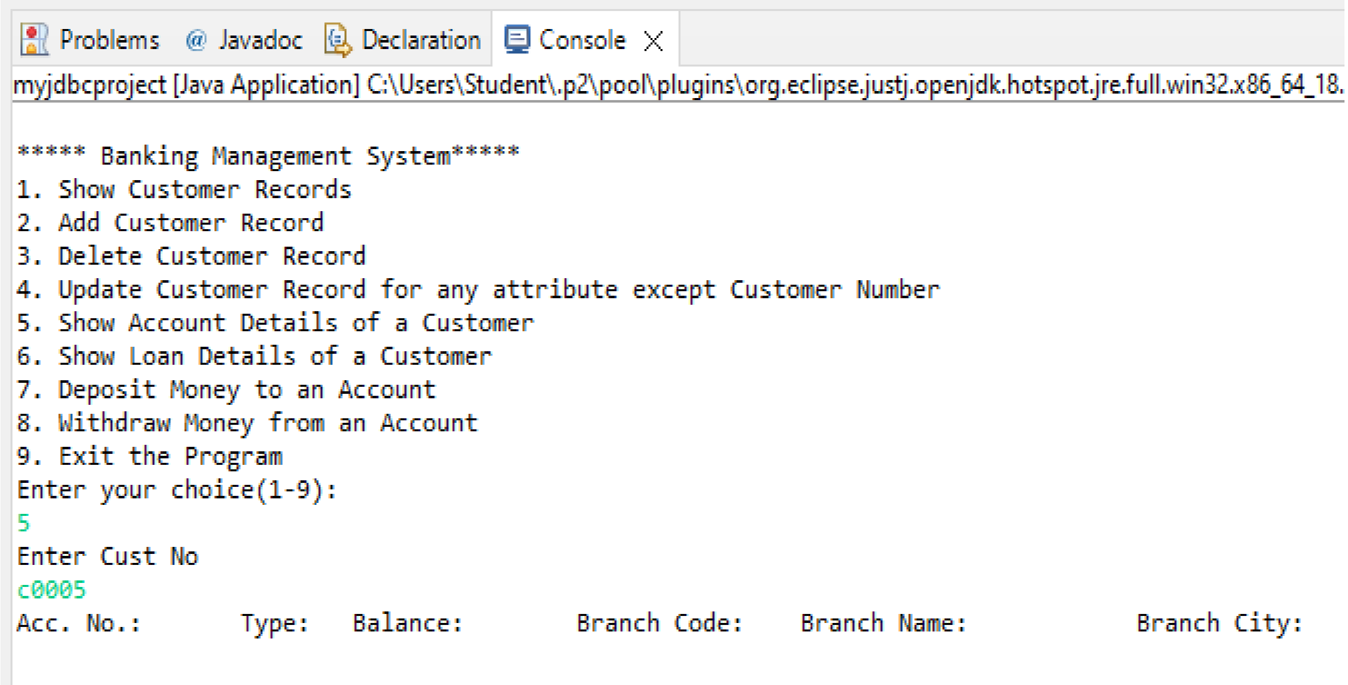
```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.

***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
5
Enter Cust No
c0016
Acc. No.:       Type:   Balance:        Branch Code:    Branch Name:            Branch City:
```



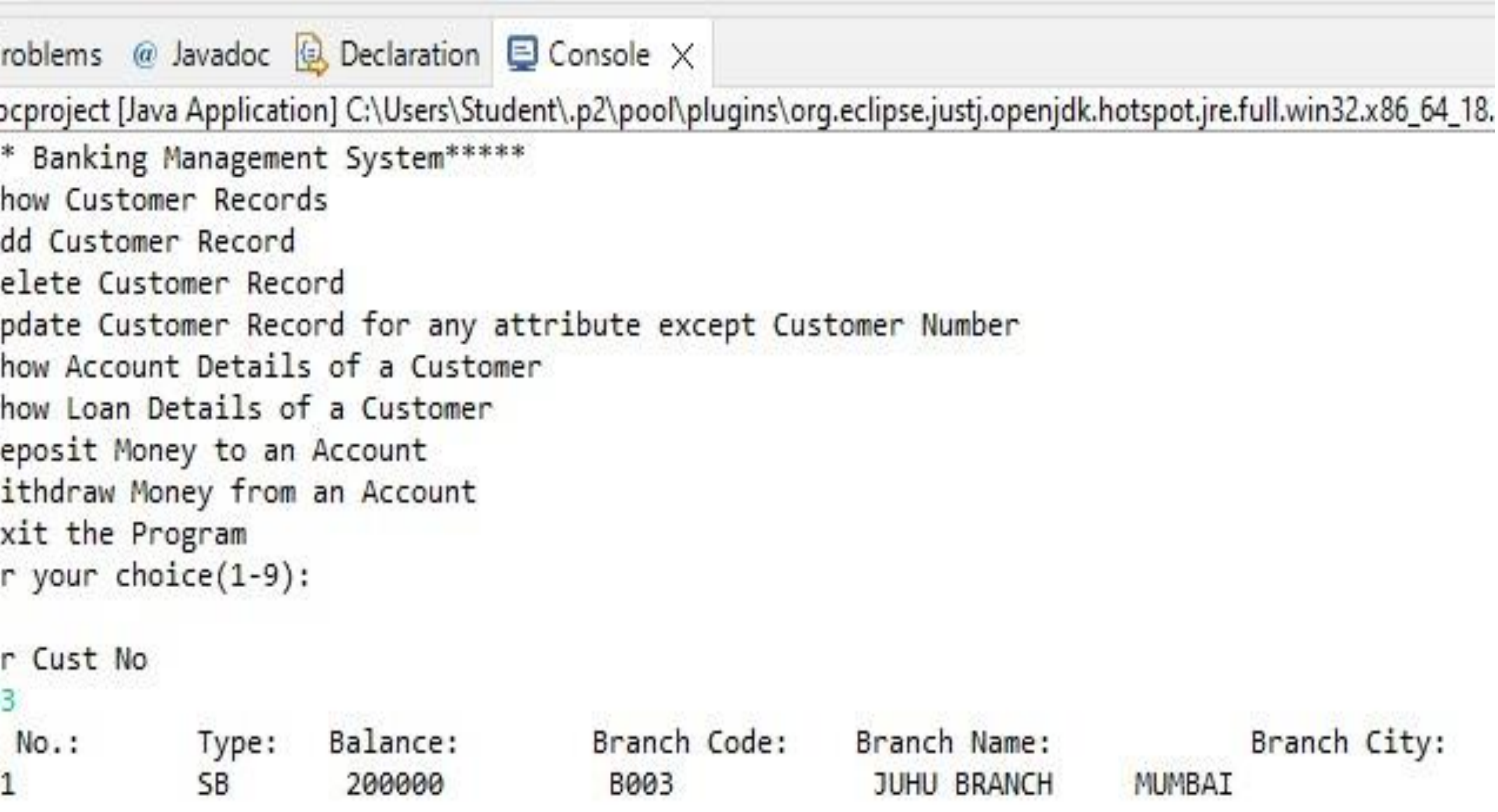
```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.

***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
5
Enter Cust No
c0005
Acc. No.:       Type:   Balance:        Branch Code:    Branch Name:            Branch City:
```



```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.

***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
5
Enter Cust No
c0016
Acc. No.:       Type:   Balance:        Branch Code:    Branch Name:            Branch City:
```

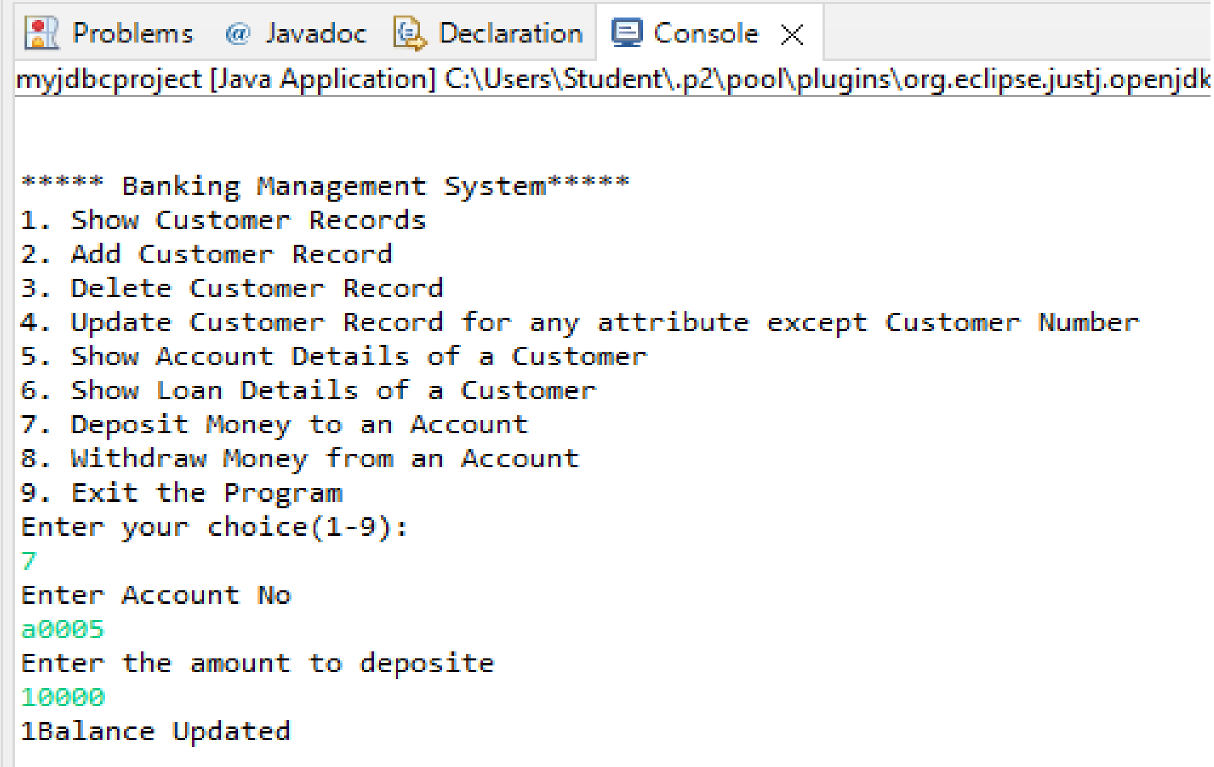


```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.

***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
5
Enter Cust No
c0005
Acc. No.:       Type:   Balance:        Branch Code:    Branch Name:            Branch City:
```

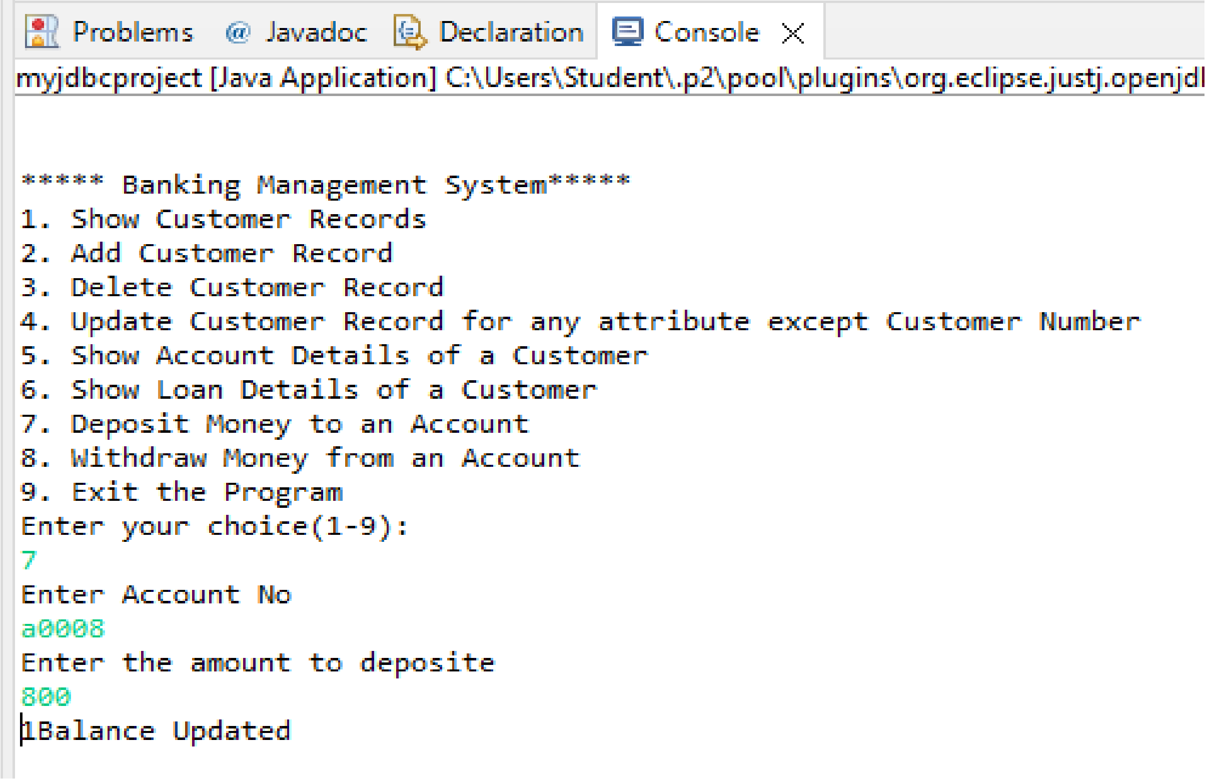


```
ocproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.
* Banking Management System*****
how Customer Records
dd Customer Record
elete Customer Record
pdate Customer Record for any attribute except Customer Number
how Account Details of a Customer
how Loan Details of a Customer
eposit Money to an Account
ithdraw Money from an Account
xit the Program
r your choice(1-9):

r Cust No
3
 No.:       Type:   Balance:        Branch Code:    Branch Name:            Branch City:
1           SB       200000          B003            JUHU BRANCH    MUMBAI
```

6.

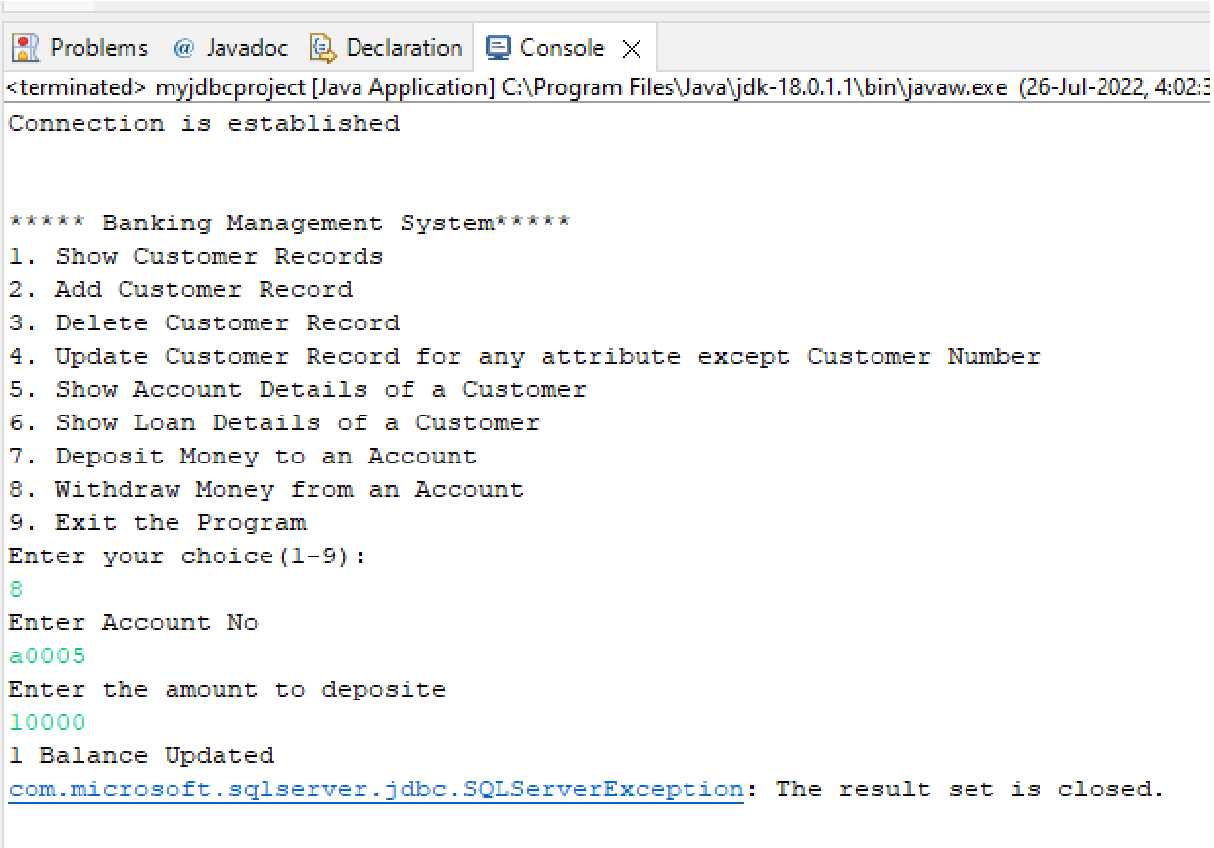


```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdk


***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
7
Enter Account No
a0005
Enter the amount to deposite
10000
1Balance Updated
```

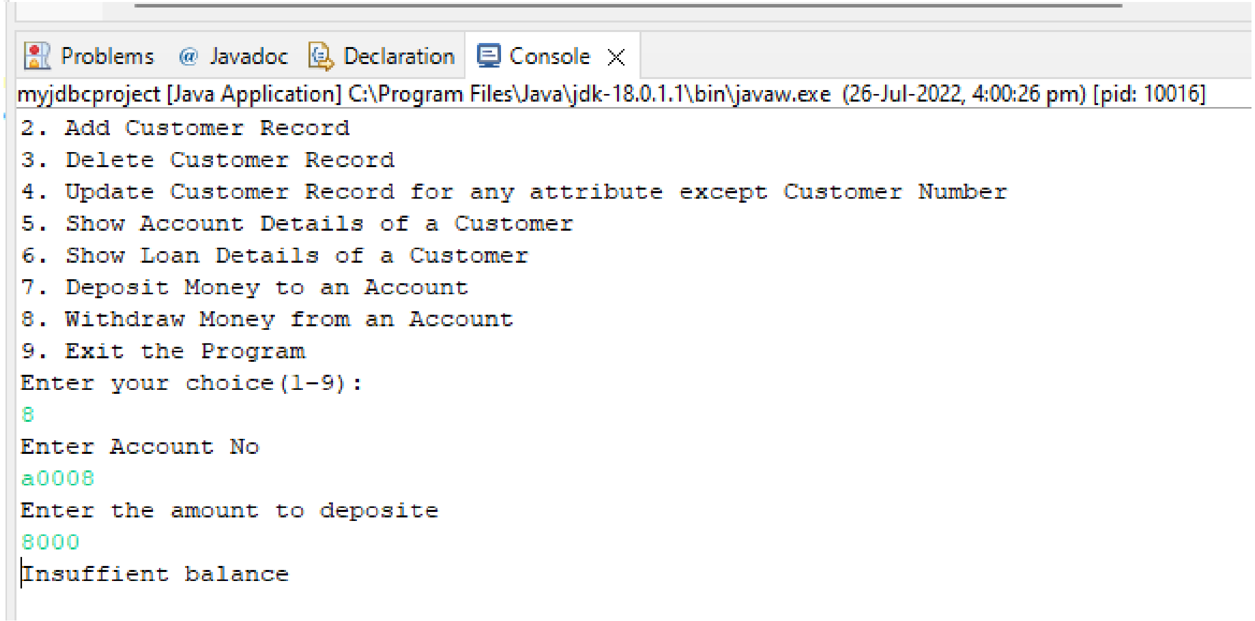


```
myjdbcproject [Java Application] C:\Users\Student\.p2\pool\plugins\org.eclipse.justj.openjdl


***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
7
Enter Account No
a0008
Enter the amount to deposite
800
1Balance Updated
```

7.

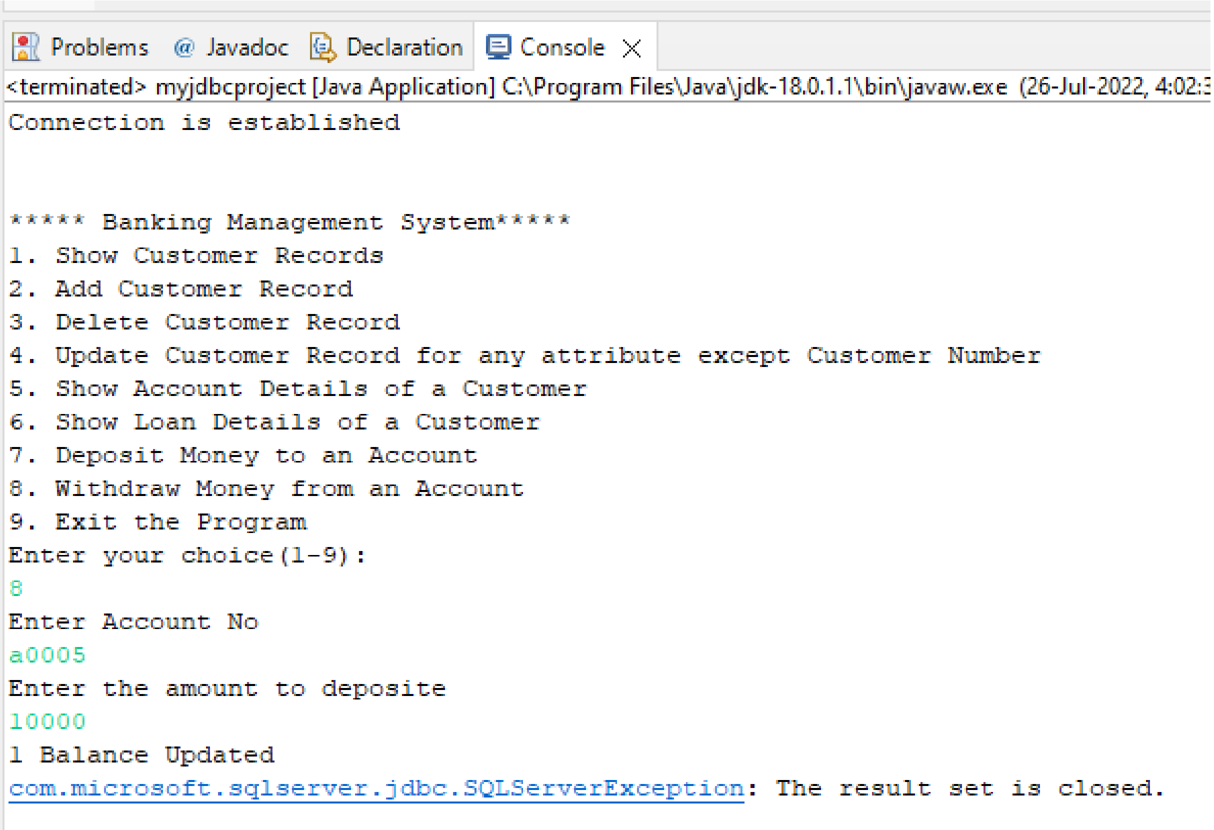


```
<terminated> myjdbcproject [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (26-Jul-2022, 4:02:3
Connection is established


***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
8
Enter Account No
a0005
Enter the amount to deposite
10000
1 Balance Updated
com.microsoft.sqlserver.jdbc.SQLServerException: The result set is closed.
```

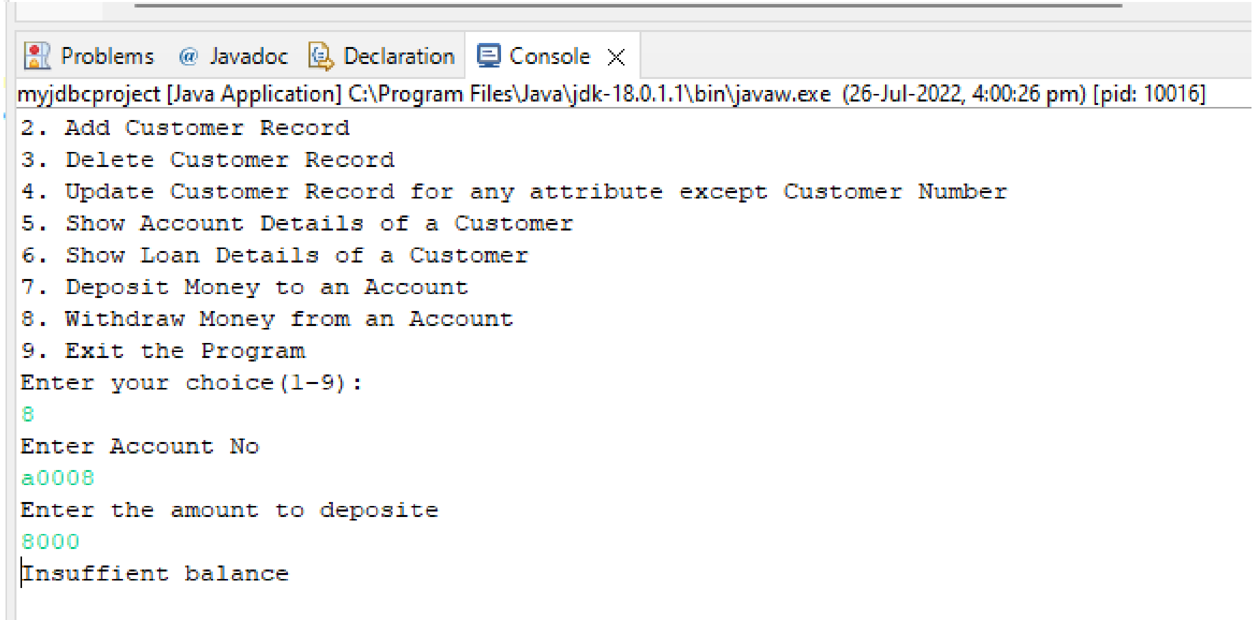


```
myjdbcproject [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (26-Jul-2022, 4:00:26 pm) [pid: 10016]
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
8
Enter Account No
a0008
Enter the amount to deposite
8000
Insuffient balance
```

8.

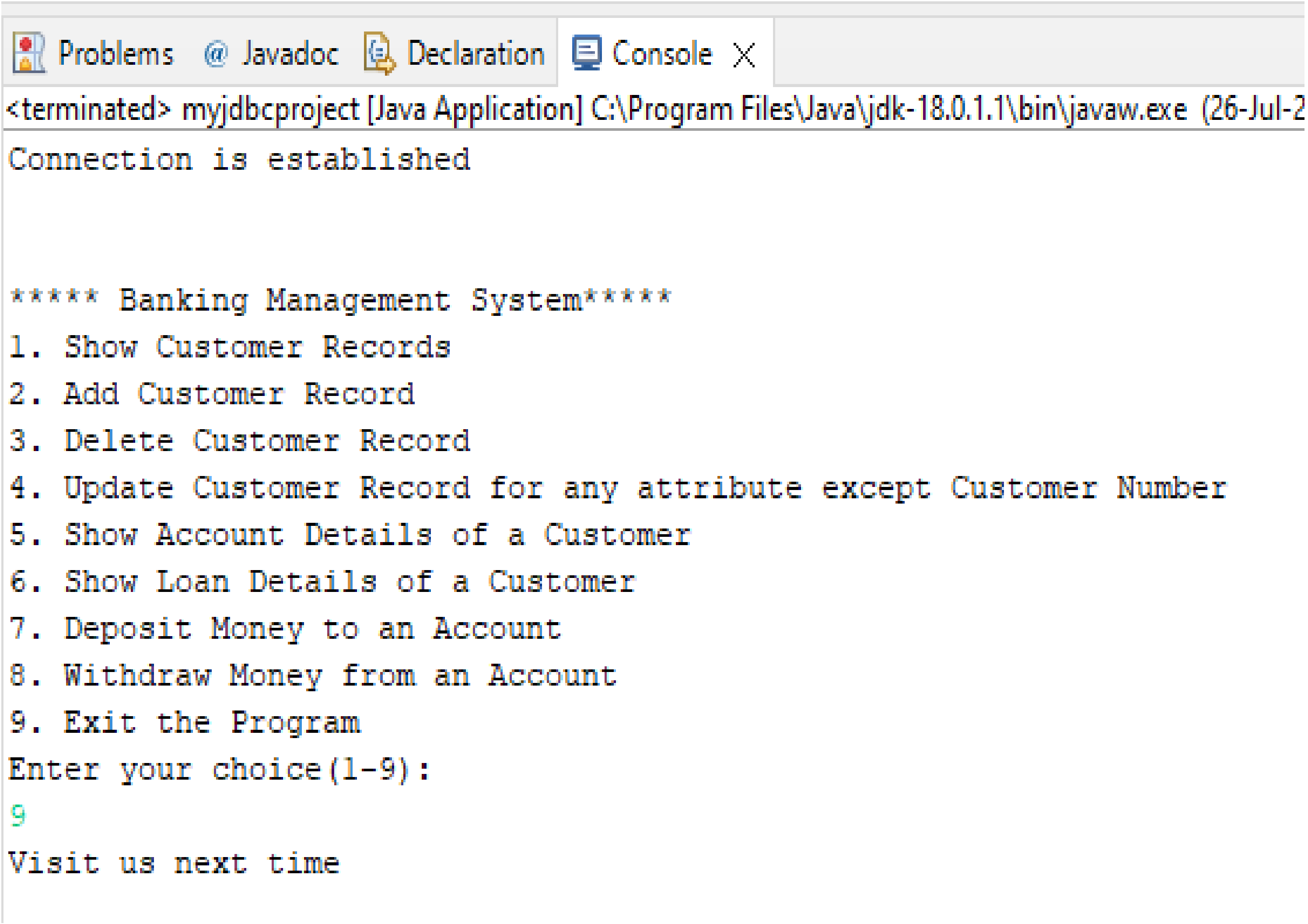


```
<terminated> myjdbcproject [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (26-Jul-2022, 4:02:3
Connection is established


***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
8
Enter Account No
a0005
Enter the amount to deposite
10000
1 Balance Updated
com.microsoft.sqlserver.jdbc.SQLServerException: The result set is closed.
```



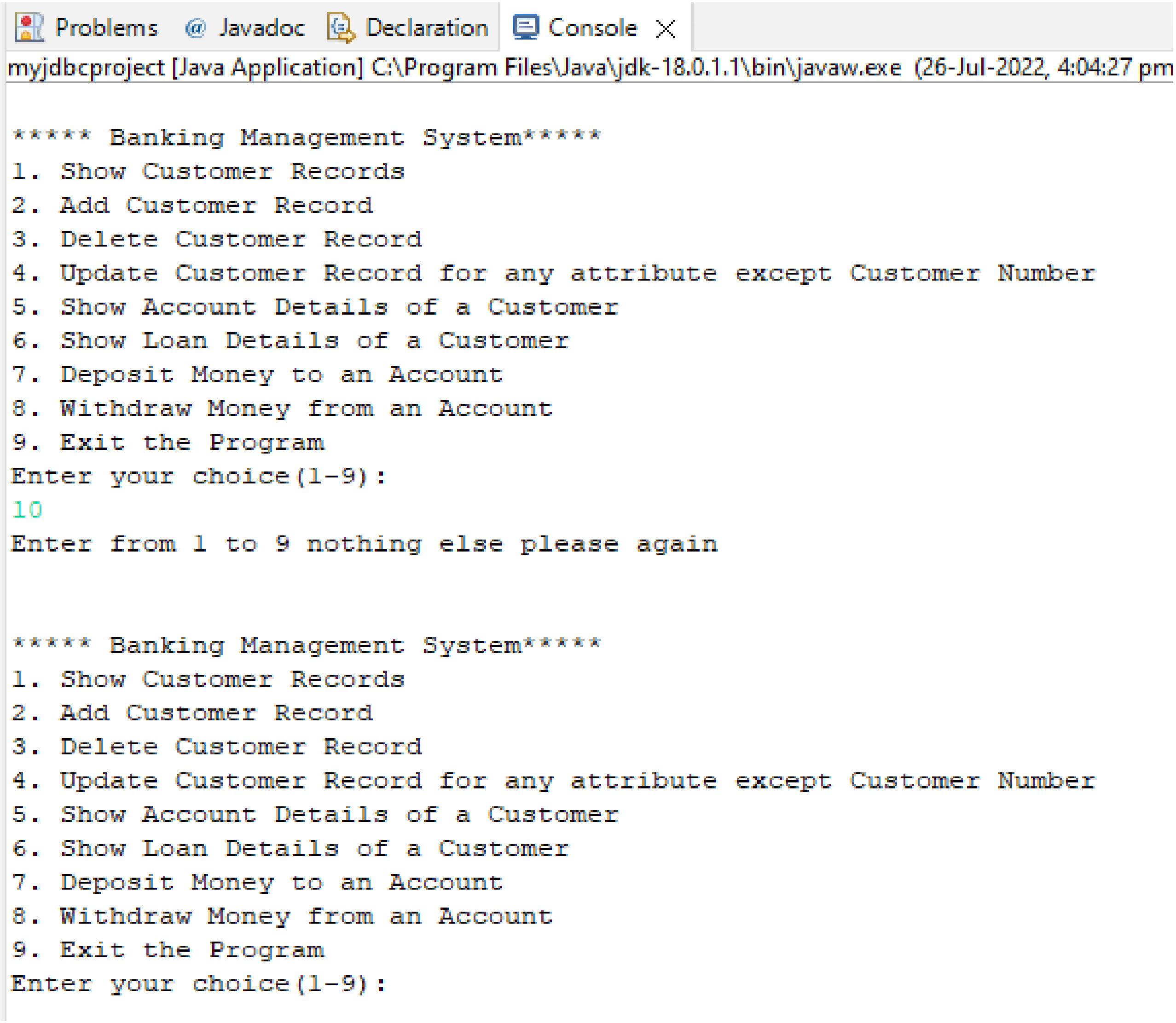
```
myjdbcproject [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (26-Jul-2022, 4:00:26 pm) [pid: 10016]
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
8
Enter Account No
a0008
Enter the amount to deposite
8000
Insuffient balance
```

9.



```
<terminated> myjdbcproject [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe (26-Jul-2
Connection is established


***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
9
Visit us next time
```

10.



myjdbcproject [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe (26-Jul-2022, 4:04:27 pm

```
***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
10
Enter from 1 to 9 nothing else please again


***** Banking Management System*****
1. Show Customer Records
2. Add Customer Record
3. Delete Customer Record
4. Update Customer Record for any attribute except Customer Number
5. Show Account Details of a Customer
6. Show Loan Details of a Customer
7. Deposit Money to an Account
8. Withdraw Money from an Account
9. Exit the Program
Enter your choice(1-9):
```