

National University of Modern Languages



Assignment#01

Roll # 2340

Class: BSCS 5B Morning

Subject: ADVANCE OOP

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About: This assignment is about the Library Management System. After login the form there is some functionality that the management system does. It takes student and Book records. Students can Issue & Return books.

DAO LAYERS:

AccountDao

```
import java.sql.*;

import javax.swing.JOptionPane;

public class AccountDao {

    Connection con = null;

    void Connection() {
        try {
            Class.forName("com.mysql.jdbc.Driver");
            String url = "jdbc:mysql://localhost:3306/LibraryManagement";
            con = DriverManager.getConnection(url, "root", "");
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(null, ex.toString());
        }
    }

    int Insert(Account A) {
        Connection();
        int res = 0;
```

```

try {
    String qry = "insert into Account values (?,?,,?,?)";
    PreparedStatement pst = con.prepareStatement(qry);
    pst.setString(1, A.Username);
    pst.setString(2, A.Name);
    pst.setInt(3, A.Password);
    pst.setString(4,A.Sec_Q);
    pst.setString(5,A.Answer);
    res = pst.executeUpdate();
    con.close();
} catch (Exception ex) {
    JOptionPane.showMessageDialog(null, ex.toString());
}
return res;
}

```

```

ResultSet Search(Account A){
    Connection();
    ResultSet res=null;
    try {
        String qry="select * from Account where Username = ?";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setString(1,A.Username);
        res = pst.executeQuery();
//        con.close();
    } catch (Exception ex) {

```

```

        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}

ResultSet Retrieve(Account A){
    Connection();
    ResultSet res=null;
    try {
        String qry="select * from Account where Answer = ?";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setString(1,A.Answer);
        res = pst.executeQuery();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}

ResultSet Authenticate(Account A){
    Connection();
    ResultSet res=null;
    try {
        String qry="select * from Account where Username = ? and Password=?";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setString(1,A.Username);
        pst.setInt(2, A.Password);
        res = pst.executeQuery();
    }

```

```

        } catch (Exception ex) {
            JOptionPane.showMessageDialog(null, ex.toString());
        }
    }
    return res;
}

```

```

}

```

BookDao:

```

import java.sql.*;
import javax.swing.JOptionPane;

public class BookDao {

    Connection con = null;

    void Connection() {
        try {
            Class.forName("com.mysql.jdbc.Driver");
            String url = "jdbc:mysql://localhost:3306/LibraryManagement";
            con = DriverManager.getConnection(url, "root", "");
        } catch (Exception ex) {

```

```
        JOptionPane.showMessageDialog(null, ex.toString());
    }
}
```

```
int Insert(Book b) {
    Connection();
    int res = 0;
    try {
        String qry = "insert into Book values (?,?,?,?,?)";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setInt(1, b.Book_Id);
        pst.setString(2, b.Name);
        pst.setInt(3, b.Edition);
        pst.setString(4, b.Publisher);
        pst.setInt(5, b.Price);
        pst.setInt(6, b.Page);
        res = pst.executeUpdate();
        con.close();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}
```

```
}
```

StudentDao:

```
import java.sql.*;
```

```
import javax.swing.JOptionPane;
```

```
public class StudentDao {
```

```
    Connection con = null;
```

```
    void Connection() {
```

```
        try {
```

```
            Class.forName("com.mysql.jdbc.Driver");
```

```
            String url = "jdbc:mysql://localhost:3306/LibraryManagement";
```

```
            con = DriverManager.getConnection(url, "root", "");
```

```
        } catch (Exception ex) {
```

```
            JOptionPane.showMessageDialog(null, ex.toString());
```

```
        }
```

```
    }
```

```
    int Insert(NewStudent s) {
```

```
        Connection();
```

```
        int res = 0;
```

```
        try {
```

```
            String qry = "insert into NewStudent values (?, ?, ?, ?)";
```

```
            PreparedStatement pst = con.prepareStatement(qry);
```

```
            pst.setInt(1, s.StudentId );
```

```
            pst.setString(2, s.Name);
```

```
            pst.setString(3, s.Course);
```

```

        pst.setInt(4,s.Semster);
        res = pst.executeUpdate();
        con.close();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}

int Update(NewStudent s) {
    Connection();
    int res = 0;
    try {
        String qry = "update newstudent set Name=?, Course=?, Semester=? where
StudentId=?";

        PreparedStatement pst = con.prepareStatement(qry);
        pst.setString(1, s.Name);
        pst.setString(2, s.Course);
        pst.setInt(3,s.Semster);
        pst.setInt(4,s.StudentId );
        res = pst.executeUpdate();
        con.close();
    } catch (Exception ex) {
        System.out.println(ex.toString());
    }
    return res;
}

```



```
}
```

IssueDao:

```
import java.sql.*;
```

```
import javax.swing.JOptionPane;
```

```
public class IssueDao {
```

```
    Connection con = null;
```

```
    void Connection() {
```

```
        try {
```

```
            Class.forName("com.mysql.jdbc.Driver");
```

```
            String url = "jdbc:mysql://localhost:3306/LibraryManagement";
```

```
            con = DriverManager.getConnection(url, "root", "");
```

```
        } catch (Exception ex) {
```

```
            JOptionPane.showMessageDialog(null, ex.toString());
```

```
        }
```

```
    }
```

```
    ResultSet Search(Book b) {
```

```
        Connection();
```

```
        ResultSet res = null;
```

```
        try {
```

```
            String qry = "select * from book where Book_Id = ?";
```

```

        PreparedStatement pst = con.prepareStatement(qry);
        pst.setInt(1, b.Book_Id);
        res = pst.executeQuery();
        //con.close();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}

```

```

ResultSet Search(NewStudent s) {
    Connection();
    ResultSet res = null;
    try {
        String qry = "select * from newstudent where StudentId = ?";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setInt(1, s.StudentId);
        res = pst.executeQuery();
        //con.close();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}

```

```

int Insert(Issue I) {

```

```

Connection();

int res = 0;

try {

    String qry = "insert into issue values (?, ?, ?, ?, ?, ?, ?, ?, ?, ?)";

    PreparedStatement pst = con.prepareStatement(qry);

    pst.setInt(1, I.Book_Id);

    pst.setString(2, I.BName);

    pst.setString(3, I.Edition);

    pst.setString(4, I.Publisher);

    pst.setInt(5, I.Price);

    pst.setInt(6, I.Page);

    pst.setInt(7, I.S_Id);

    pst.setString(8, I.SName);

    pst.setString(9, I.Course);

    pst.setInt(10, I.Semster);

    pst.setString(11, I.Date_of_Issue);


    res = pst.executeUpdate();

    con.close();

} catch (Exception ex) {

    JOptionPane.showMessageDialog(null, ex.toString());

}

return res;

}

}

```

ReturnDao:

```
import java.sql.*;
import javax.swing.JOptionPane;

public class ReturnDao {
    Connection con = null;

    void Connection() {
        try {
            Class.forName("com.mysql.jdbc.Driver");
            String url = "jdbc:mysql://localhost:3306/LibraryManagement";
            con = DriverManager.getConnection(url, "root", "");
        } catch (Exception ex) {
            JOptionPane.showMessageDialog(null, ex.toString());
        }
    }
}
```

```
ResultSet Search(Issue I) {
    Connection();
    ResultSet res = null;
    try {
        String qry = "select * from Issue where S_Id = ?";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setInt(1, I.S_Id);
        res = pst.executeQuery();
        //con.close();
    }
}
```

```

    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}

int Delete(Issue I){
    Connection();
    int res=0;
    try {
        String qry ="delete from Issue where S_Id=?";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setInt(1,I.S_Id);
        res = pst.executeUpdate();
        con.close();
    } catch (Exception ex) {
        System.out.println(ex.toString());
    }
    return res;
}

int Insert(Return R) {
    Connection();
    int res = 0;
    try {
        String qry = "insert into Return_Book values (?, ?, ?, ?, ?, ?, ?, ?, ?, ?)";
        PreparedStatement pst = con.prepareStatement(qry);
        pst.setInt(1, R.S_Id);
    }
}

```

```

        pst.setString(2, R.SName);
        pst.setString(3, R.Course);
        pst.setInt(4, R.Semster);
        pst.setInt(5, R.Book_Id);
        pst.setString(6, R.BName);
        pst.setString(7, R.Edition);
        pst.setString(8,R.Publisher);
        pst.setInt(9, R.Price);
        pst.setInt(10, R.Page);
        pst.setString(11, R.Date_of_Issue);
        pst.setString(12, R.Date_of_Return);

        res = pst.executeUpdate();
        con.close();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
        System.out.println("insert problem");
    }
    return res;
}

ResultSet Record(Issue I) {
    Connection();
    ResultSet res = null;
    try {
        String qry = "select Book_Id, S_Id,Semster,Date_of_Issue from Issue";
        Statement pst = con.createStatement();
    }

```

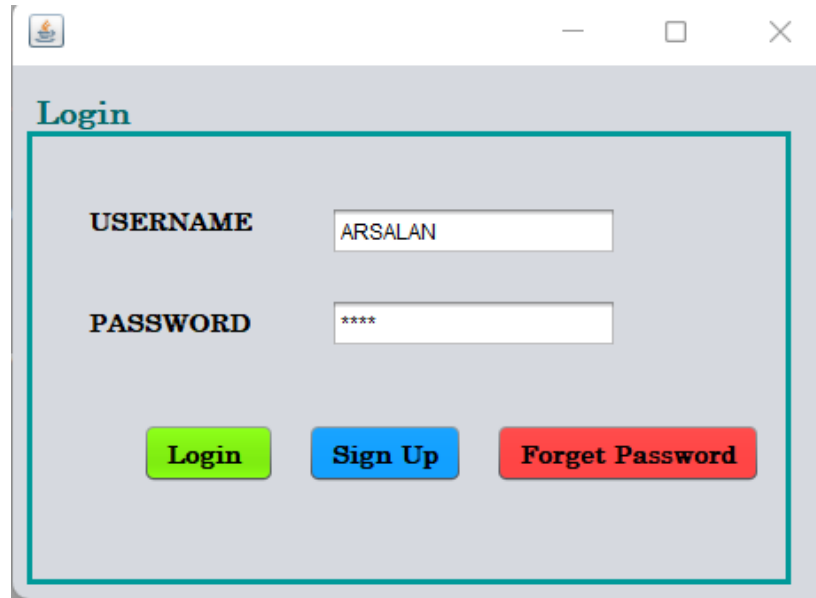
```

        res = pst.executeQuery(qry);
        //con.close();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}

ResultSet Record2(Return R) {
    Connection();
    ResultSet res = null;
    try {
        String qry = "select Book_Id, S_Id,Semster,Date_of_Return from Return_Book";
        Statement pst = con.createStatement();
        res = pst.executeQuery(qry);
        //con.close();
    } catch (Exception ex) {
        JOptionPane.showMessageDialog(null, ex.toString());
    }
    return res;
}
}

```

SCREENSHOTS OF GUI



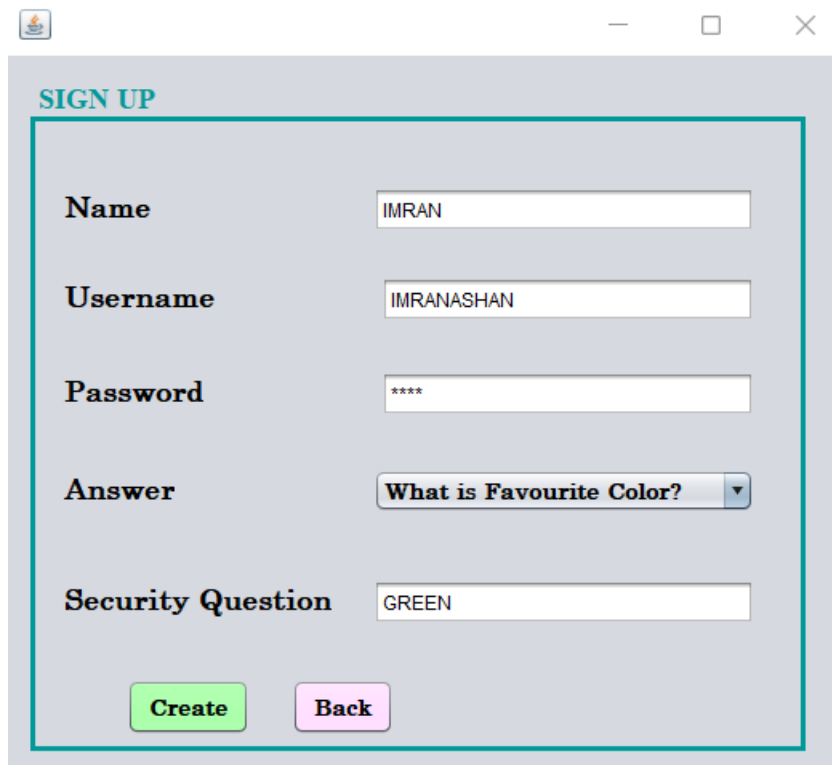
A screenshot of a web application window titled "Login". The window has a standard OS-style title bar with a minimize button, a maximize button, and a close button. The main content area is light gray and contains a teal-bordered box. Inside this box, the word "Login" is written in teal at the top left. Below it, there are two input fields: "USERNAME" with the value "ARSALAN" and "PASSWORD" with the value "****". At the bottom of the box, there are three buttons: a green "Login" button, a blue "Sign Up" button, and a red "Forget Password" button.

Login

USERNAME ARSALAN

PASSWORD ****

Login **Sign Up** **Forget Password**



A screenshot of a web application window titled "SIGN UP". The window has a standard OS-style title bar with a minimize button, a maximize button, and a close button. The main content area is light gray and contains a teal-bordered box. Inside this box, the words "SIGN UP" are written in teal at the top left. Below it, there are five input fields: "Name" with the value "IMRAN", "Username" with the value "IMRANASHAN", "Password" with the value "****", "Answer" with a dropdown menu showing "What is Favourite Color?", and "Security Question" with the value "GREEN". At the bottom of the box, there are two buttons: a green "Create" button and a pink "Back" button.

SIGN UP

Name IMRAN

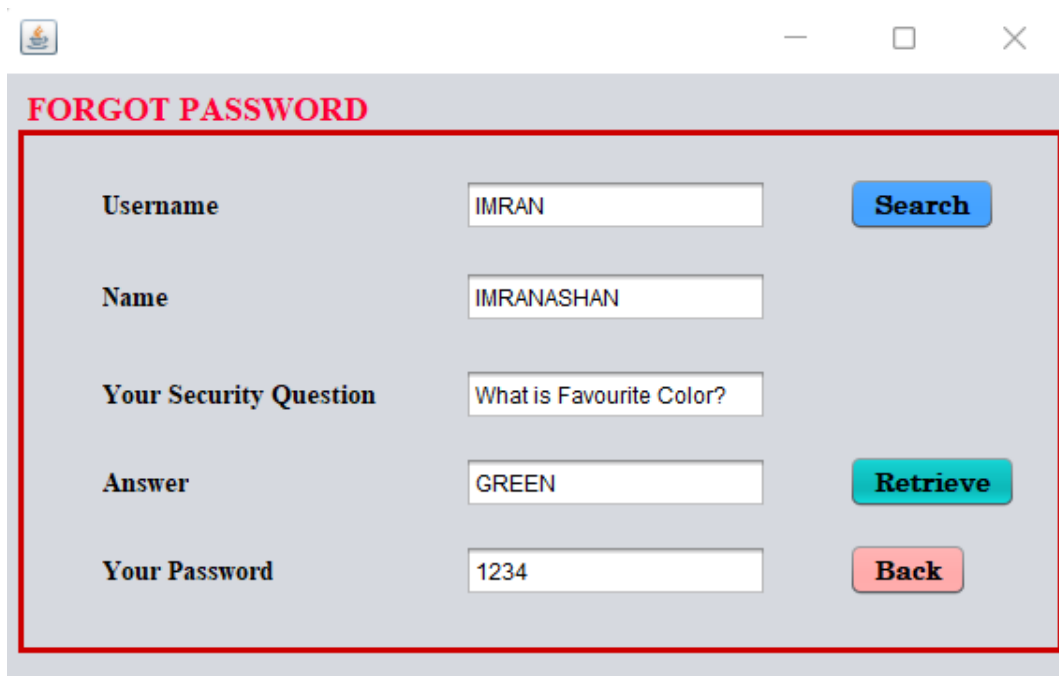
Username IMRANASHAN

Password ****

Answer What is Favourite Color?

Security Question GREEN

Create **Back**



The image shows a web browser window with a title bar containing a small icon and standard minimize, maximize, and close buttons. The main content area has a light gray background and is titled "FORGOT PASSWORD" in red, bold, uppercase letters. Below the title is a red-bordered box containing a form with five rows of input fields and three buttons. The first row has a "Username" label, a text box with "IMRAN", and a blue "Search" button. The second row has a "Name" label, a text box with "IMRANASHAN", and no button. The third row has a "Your Security Question" label, a text box with "What is Favourite Color?", and no button. The fourth row has an "Answer" label, a text box with "GREEN", and a teal "Retrieve" button. The fifth row has a "Your Password" label, a text box with "1234", and a pink "Back" button.

Username	IMRAN	Search
Name	IMRANASHAN	
Your Security Question	What is Favourite Color?	
Answer	GREEN	Retrieve
Your Password	1234	Back

***AFTER CREATING AN ACCOUNT THEN LOG IN IF FORGET THE PASSWORD
IN THIS MANAGEMENT SYSTEM YOU HAVE AN OPTION TO GET THE
AGAIN PASSWORD THEN LOGIN INTO THE MANAGEMENT SYSTEM***



LIBRARY MANAGEMENT SYSTEM

OPERATIONS



New Book



RECORD



NEW Student

ACTIONS



Issue Book



Return Book

NewBook

Book Id

Name


Edition

Publisher

Price

Pages

Student Record




Student Id


Name


Course

Semster


— □ ×

ISSUE BOOK

Book Id	887	SEARCH	Student Id	6	SEARCH
Name	PAKSTUDIES		Name	FAIZAN	
Edition	3		Course	BSEE	
Publisher	ALI		Semster	2	
Price	340				
Pages	98		Date of Issue	Apr 14, 2022	
			ISSUE BACK		

— □ ×

RETURN BOOK

Student Id	6	SEARCH	Book Id	887
Name	FAIZAN		Name	PAKSTUDIES
Course	BSEE		Edition	3
Semester	2		Publisher	ALI
			Price	340
			Pages	98
			Date of Issue	Apr 14, 2022
Return Date	28, 2022			
Return		Back		



ISSUE BOOK DETAILS

Book_Id	S_Id	Semster	Date_of_Issue
988	1	5	Apr 6, 2022
988	2	3	Apr 17, 2022
649	5	7	Apr 22, 2022

RETURN BOOK DETAILS

Book_Id	S_Id	Semster	Date_of_Return
988	2	3	Apr 5, 2022
988	2	3	Apr 22, 2022
887	6	2	Apr 28, 2022

Back