* ***Create a app called Training Assessment App***

*Create table Users in mysql*

*Username : varchar(20)*

*Password : varchar(20)*

*Insert three records.*

*The aim of this app is to keep track of the assessment scores of the participants.*

*The app should be secured and only authorized users can access this app.*

*See the same output below:*

*Enter your credentials:*

*Username: neha*

*Password: sample*

*[ These credentials should be validated against Users table in mysql]*

1. *Scenario 1: User name cannot be authenticated*
2. *Scenario 1: User successfully authenticated.*

*M E N U*

1. *Display All Training Records*
2. *Display Records one by One and update the percentage*
3. *E X I T*

* *Create a table called* ***Training*** *in MySQL with the following fields,*
  + *Sap\_ID*
  + *Employee\_name*
  + *Stream*
  + *Percentage*
* *Enter some data into the table without Percentage.*

*Write a JDBC program to achieve the following things :*

1. *Write Java code using JDBC driver to display records all the records.*
2. *Write Java code to display records one by one. Each time the record is displayed, prompt user to enter the Percentage and update the record.*
3. If the record already have percentage data (Hint: other than 0) then no updating of the percentage should take place.

NB:

1. Use DAO Design Pattern
2. Please make sure you use Collection Framework classes wherever required.
3. **package** com.dxc.training.client;
4. **public** **class** Main {
5. **public** **static** **void** main(String[] args) {
6. // **TODO** Auto-generated method stub
7. UserLogin login=**new** UserLogin();
8. login.validateUser();
9. TrainingMenu menu=**new** TrainingMenu();
10. menu.launchMenu();
11. }
12. }

**package** com.dxc.training.client;

**import** java.util.Scanner;

**import** com.dxc.training.dao.TrainingDAO;

**import** com.dxc.training.dao.TrainingDAOImpl;

**public** **class** TrainingMenu {

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

**int** choice;

TrainingDAO trainingDAO;

**public** TrainingMenu() {

// **TODO** Auto-generated constructor stub

**this**.trainingDAO=**new** TrainingDAOImpl();

}

**public** **void** launchMenu() {

**while**(**true**) {

System.***out***.println("Menu");

System.***out***.println("1.Display All Records");

System.***out***.println("2.Display Records one by one and Update Percentage");

System.***out***.println("3.Exit");

System.***out***.println("Enter the choice");

choice=scanner.nextInt();

**switch**(choice) {

**case** 1:

System.***out***.println(trainingDAO.getAllRecords());

**break**;

**case** 2:

trainingDAO.updatePercentage();

**break**;

**case** 3:

System.***out***.println("Program Ended");

System.*exit*(0);

**break**;

}

}

}

}

**package** com.dxc.training.client;

**import** java.util.Scanner;

**import** com.dxc.training.dao.UserDAO;

**import** com.dxc.training.dao.UserDAOImp;

**import** com.dxc.training.model.User;

**public** **class** UserLogin {

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

UserDAO userDAO;

String userName;

String password;

**public** UserLogin() {

// **TODO** Auto-generated constructor stub

**this**.userDAO=**new** UserDAOImp();

}

**public** **void** validateUser() {

// **TODO** Auto-generated method stub

System.***out***.println("Enter UserId and Password");

userName=scanner.next();

password=scanner.next();

User user=**new** User(userName,password);

**if**(userDAO.validateUser(user)) {

System.***out***.println("Login Success");

}

**else** {

System.***out***.println("Incorrect Credentials");

}

}

}

**package** com.dxc.training.dao;

**import** java.util.List;

**import** com.dxc.training.model.Training;

**public** **interface** TrainingDAO {

**public** List<Training>getAllRecords();

**public** **void** updatePercentage();

}

**package** com.dxc.training.dao;

**import** java.sql.Connection;

**import** java.sql.PreparedStatement;

**import** java.sql.ResultSet;

**import** java.sql.SQLException;

**import** java.sql.Statement;

**import** java.util.ArrayList;

**import** java.util.List;

**import** java.util.Scanner;

**import** com.dxc.training.dbconn.DbConnection;

**import** com.dxc.training.model.Training;

**public** **class** TrainingDAOImpl **implements** TrainingDAO {

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

**int** Percentage;

Connection connection=DbConnection.*getConnection*();

**private** **static** **final** String ***FETCH\_ALL\_RECORDS***="Select \* from training";

**private** **static** **final** String ***UPDATE\_PERCENTAGE***="Update training set percentage=? where sapId=?";

@Override

**public** List<Training> getAllRecords() {

// **TODO** Auto-generated method stub

List<Training> allRecords=**new** ArrayList<Training>();

**try** {

Statement statement=connection.createStatement();

ResultSet resultSet=statement.executeQuery(***FETCH\_ALL\_RECORDS***);

**while**(resultSet.next()) {

Training training=**new** Training();

training.setSapId(resultSet.getString(1));

training.setEmployeeName(resultSet.getString(2));

training.setStream(resultSet.getString(3));

training.setPercentage(resultSet.getInt(4));

allRecords.add(training);

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

**return** allRecords;

}

@Override

**public** **void** updatePercentage() {

// **TODO** Auto-generated method stub

**try** {

Statement statement=connection.createStatement();

ResultSet resultSet=statement.executeQuery(***FETCH\_ALL\_RECORDS***);

PreparedStatement preparedStatement;

**while**(resultSet.next()) {

System.***out***.println("SapId: "+resultSet.getString(1));

System.***out***.println("Employee Name: "+resultSet.getString(2));

System.***out***.println("Stream: "+resultSet.getString(3));

**if**(resultSet.getInt(4)==0) {

System.***out***.println("Enter The Percentage ");

Percentage=scanner.nextInt();

preparedStatement=connection.prepareStatement(***UPDATE\_PERCENTAGE***);

preparedStatement.setInt(1, Percentage);

preparedStatement.setString(2,resultSet.getString(1));

preparedStatement.executeUpdate();

}

**else** {

System.***out***.println("Percentage: "+resultSet.getInt(4));

}

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

}

**package** com.dxc.training.dao;

**import** com.dxc.training.model.User;

**public** **interface** UserDAO {

**public** **boolean** validateUser(User user);

}

**package** com.dxc.training.dao;

**import** java.sql.Connection;

**import** java.sql.PreparedStatement;

**import** java.sql.ResultSet;

**import** java.sql.SQLException;

**import** com.dxc.training.dbconn.DbConnection;

**import** com.dxc.training.model.User;

**public** **class** UserDAOImp **implements** UserDAO{

Connection connection=DbConnection.*getConnection*();

**private** **static** **final** String ***Fetch\_User***="Select \* from users where Username=? and Password =?";

@Override

**public** **boolean** validateUser(User user) {

// **TODO** Auto-generated method stub

**boolean** validUser=**false**;

PreparedStatement preparedStatement;

**try** {

preparedStatement=connection.prepareStatement(***Fetch\_User***);

preparedStatement.setString(1,user.getUserName());

preparedStatement.setString(2,user.getPassword());

ResultSet resultSet=preparedStatement.executeQuery();

**if**(resultSet.next()) {

validUser=**true**;

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

**return** validUser;

}

}

**package** com.dxc.training.dbconn;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.SQLException;

**public** **class** DbConnection {

**public** DbConnection() {

// **TODO** Auto-generated constructor stub

}

**public** **static** Connection getConnection() {

Connection connection=**null**;

**try** {

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

} **catch** (ClassNotFoundException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

**try** {

connection=DriverManager.*getConnection*("jdbc:mysql://localhost:3306/dxc","root","ROOT");

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

**return** connection;

}

}

**package** com.dxc.training.model;

**public** **class** Training {

**private** String sapId;

**private** String employeeName;

**private** String stream;

**private** **int** percentage;

**public** Training() {

// **TODO** Auto-generated constructor stub

}

**public** Training(String sapId, String employeeName, String stream, **int** percentage) {

**super**();

**this**.sapId = sapId;

**this**.employeeName = employeeName;

**this**.stream = stream;

**this**.percentage = percentage;

}

**public** String getSapId() {

**return** sapId;

}

**public** **void** setSapId(String sapId) {

**this**.sapId = sapId;

}

**public** String getEmployeeName() {

**return** employeeName;

}

**public** **void** setEmployeeName(String employeeName) {

**this**.employeeName = employeeName;

}

**public** String getStream() {

**return** stream;

}

**public** **void** setStream(String stream) {

**this**.stream = stream;

}

**public** **int** getPercentage() {

**return** percentage;

}

**public** **void** setPercentage(**int** percentage) {

**this**.percentage = percentage;

}

@Override

**public** **int** hashCode() {

**final** **int** prime = 31;

**int** result = 1;

result = prime \* result + ((employeeName == **null**) ? 0 : employeeName.hashCode());

result = prime \* result + percentage;

result = prime \* result + ((sapId == **null**) ? 0 : sapId.hashCode());

result = prime \* result + ((stream == **null**) ? 0 : stream.hashCode());

**return** result;

}

@Override

**public** **boolean** equals(Object obj) {

**if** (**this** == obj)

**return** **true**;

**if** (obj == **null**)

**return** **false**;

**if** (getClass() != obj.getClass())

**return** **false**;

Training other = (Training) obj;

**if** (employeeName == **null**) {

**if** (other.employeeName != **null**)

**return** **false**;

} **else** **if** (!employeeName.equals(other.employeeName))

**return** **false**;

**if** (percentage != other.percentage)

**return** **false**;

**if** (sapId == **null**) {

**if** (other.sapId != **null**)

**return** **false**;

} **else** **if** (!sapId.equals(other.sapId))

**return** **false**;

**if** (stream == **null**) {

**if** (other.stream != **null**)

**return** **false**;

} **else** **if** (!stream.equals(other.stream))

**return** **false**;

**return** **true**;

}

@Override

**public** String toString() {

**return** "Training [sapId=" + sapId + ", employeeName=" + employeeName + ", stream=" + stream + ", percentage="

+ percentage + "]";

}

}

**package** com.dxc.training.model;

**public** **class** User {

**private** String userName;

**private** String password;

**public** User() {

// **TODO** Auto-generated constructor stub

}

**public** User(String userName, String password) {

**super**();

**this**.userName = userName;

**this**.password = password;

}

**public** String getUserName() {

**return** userName;

}

**public** **void** setUserName(String userName) {

**this**.userName = userName;

}

**public** String getPassword() {

**return** password;

}

**public** **void** setPassword(String password) {

**this**.password = password;

}

@Override

**public** **int** hashCode() {

**final** **int** prime = 31;

**int** result = 1;

result = prime \* result + ((password == **null**) ? 0 : password.hashCode());

result = prime \* result + ((userName == **null**) ? 0 : userName.hashCode());

**return** result;

}

@Override

**public** **boolean** equals(Object obj) {

**if** (**this** == obj)

**return** **true**;

**if** (obj == **null**)

**return** **false**;

**if** (getClass() != obj.getClass())

**return** **false**;

User other = (User) obj;

**if** (password == **null**) {

**if** (other.password != **null**)

**return** **false**;

} **else** **if** (!password.equals(other.password))

**return** **false**;

**if** (userName == **null**) {

**if** (other.userName != **null**)

**return** **false**;

} **else** **if** (!userName.equals(other.userName))

**return** **false**;

**return** **true**;

}

@Override

**public** String toString() {

**return** "User [userName=" + userName + ", password=" + password + "]";

}

}