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CE158
23CEUBS158
B4
LAB 07
JT

Topics: JDBC

1. Write a Java application to perform operations for student information like (id[Primary key, Auto increment],firstName, lastName, branch, username and password) from a database using JDBC.Insert two records for student Practice the use of the following methods of the ResultSet interface: absolute(), afterLast(), beforeFirst(), first(), isFirst(), isLast(), last(), previous(), next(), relative().

Code :

```
import java.sql.*;


public class lab7_q1 {
  public static void main(String[] args) {
      String url = "jdbc:mysql://localhost:3306/jdbc_jt";
      String username = "root";
      String password = "";
      Connection con;
```

```
        try{
            con = DriverManager.getConnection(url,username,password);


            Statement st = con.createStatement();


            String q1 = "INSERT INTO `student`(`firstName`, `lastName`, `branch`,
`username`, `password`) VALUES ('Vatsal','Rathod','CA','vatsal18','1807');";
            String q2 = "INSERT INTO `student`(`firstName`, `lastName`, `branch`,
`username`, `password`) VALUES ('Jay','Rathod','CE','jay18','1808');";
            String sql = "SELECT * FROM `student`";


            int r = st.executeUpdate(q1);
            System.out.println("Number of rows affected : "+r);


            r = st.executeUpdate(q2);
            System.out.println("Number of rows affected : "+r);
            ResultSet rs = st.executeQuery(sql);


        }catch(SQLException e){
            System.out.println("Connection Not Successfully");
        }


    }
}
```

```
Number of rows affected : 1
Number of rows affected : 1
```

2. Using JDBC API and MySql database perform the following operations.
   I. create a table MOVIES with following columns in the database:
      Id of type **INTEGER AUTO INCREMENT**,
      Title of type **VARCHAR (50)**,
      Genre of type **VARCHAR (50)**,
      YearOfRelease of type **INTEGER**.
   II. Define **Movie** class with following data members
      private Integer id;
      private String title;
      private String genre;
      private Integer yearOfRelease;
      Create getters and setters for the mentioned data members.
   III. Define following methods in a class, test the methods according to user input
      A. **createMovie(Movie m)-** it will insert a new record for a movie.
      B. **deleteMovie(int MovieID)-** it will delete a movie with given MovieID
      C. **updateMovieTitle(String title, int id)-** it will update the title of a movie with given id.
      D. **findMovieById(int MovieId)-** it will display all details of a movie with a given MovieId
      E. **findAllMovie()-** it will display all details of all movies

Code :

```
package LAB7;

import java.sql.*;

public class MoviesData {

    public static void main(String[] args) {
        try(Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbc_jt", "root", "")){


            Statement s = con.createStatement();

            String str = "CREATE TABLE Movies( "
                    + "id INT PRIMARY KEY AUTO_INCREMENT, "
                    + "title VARCHAR(50), "
                    + "genre VARCHAR(50), "
                    + "YearOfRelease INT)";

            boolean ans = s.execute(str);
            System.out.println("Table Created : " + ans);

            Movie m1 = new Movie();
            m1.setTitle("3 Idiots");
            m1.setGenre("Comedy");
            m1.setYearOfRelease(2015);

            Movie m2 = new Movie();
            m2.setTitle("Pushpa 2");
            m2.setGenre("Action");
            m2.setYearOfRelease(2024);

            Movie m3 = new Movie();
            m3.setTitle("Animal");
```

```
            m3.setGenre("Action");
            m3.setYearOfRelease(2023);

            Movie m4 = new Movie();
            m4.setTitle("SitaRaman");
            m4.setGenre("Love");
            m4.setYearOfRelease(2021);


            Movie.createMovie(m1);
            Movie.createMovie(m2);
            Movie.createMovie(m3);
            Movie.createMovie(m4);

            Movie.deleteMovie(2);

            Movie.updateMovieTitle("Parasite",4);

            Movie.findMovieById(3);

            Movie.findAllMovie();

        }
        catch(Exception e){
            System.out.println(e);
        }
    }

}


class Movie{

    private Integer id = 0;
    private String title;
```

```
private String genre;
private Integer YearOfRelease;

public Movie() {
    super();
}

public Integer getId() {
    return id;
}

public void setId(Integer id) {
    this.id = id;
}

public String getTitle() {
    return title;
}

public void setTitle(String title) {
    this.title = title;
}

public String getGenre() {
    return genre;
}

public void setGenre(String genre) {
    this.genre = genre;
}

public Integer getYearOfRelease() {
    return YearOfRelease;
}
```

```
    public void setYearOfRelease(Integer yearOfRelease) {
        YearOfRelease = yearOfRelease;
    }

    public static void createMovie(Movie m) {

        try(Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbc_jt", "root", "")){

            PreparedStatement ps;

            String insert = "INSERT INTO Movies(title,genre,YearOfRelease) values
(?,?,?)";

            ps = con.prepareStatement(insert);

            ps.setString(1,m.getTitle());
            ps.setString(2,m.getGenre());
            ps.setInt(3,m.getYearOfRelease());

            int row = ps.executeUpdate();

            System.out.println("Inserted Row : " + row);

        }
        catch(Exception e) {
            System.out.println(e);
        }
    }

    public static void deleteMovie(int MovieId) {

        try(Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbc_jt", "root", "")){
```

```
            PreparedStatement ps;
            String delete = "DELETE FROM Movies WHERE id = ?";
            ps = con.prepareStatement(delete);

            ps.setInt(1, MovieId);
            int row = ps.executeUpdate();

            System.out.println("Deleted Row : " + row);

        }
        catch(Exception e) {
            System.out.println(e);
        }
    }

    public static void updateMovieTitle(String title, int id) {

        try(Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbc_jt", "root", "")){

            PreparedStatement ps;
            String update = "UPDATE Movies "
                    + "SET title = ? "
                    + "WHERE id = ?";
            ps = con.prepareStatement(update);

            ps.setString(1, title);
            ps.setInt(2, id);

            int row = ps.executeUpdate();

            System.out.println("Updated Row : " + row);

        }
        catch(Exception e) {
```

```
            System.out.println(e);
        }
    }

    public static void findMovieById(int MovieId) {

        try(Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbc_jt", "root", "")){

            PreparedStatement ps;
            String select = "SELECT * FROM Movies WHERE id = ?";
            ps = con.prepareStatement(select);

            ps.setInt(1, MovieId);

            ResultSet rs = ps.executeQuery();

            rs.next();

            System.out.println("Movie Details : " + rs.getInt(1) + " " + rs.getString(2) +
" " + rs.getString(3) + " " + rs.getInt(4));

        }
        catch(Exception e) {
            System.out.println(e);
        }
    }

    public static void findAllMovie() {

        try(Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbc_jt", "root", "")){
```

```
            Statement s =
con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR
_UPDATABLE);
            String select = "SELECT * FROM Movies";

            ResultSet rs = s.executeQuery(select);

            System.out.println("All Movies Details : ");
            while(rs.next()) {
               System.out.println(rs.getInt(1) + " " + rs.getString(2) + " " +
rs.getString(3) + " " + rs.getInt(4));
            }

        }
        catch(Exception e) {
            System.out.println(e);
        }
    }
}
```

```
C:\Users\Admin\.jdks\openjdk-23.0.1\bin\java.exe "-javaagent:C:\Program Files
Table Created : false
Inserted Row : 1
Inserted Row : 1
Inserted Row : 1
Inserted Row : 1
Deleted Row : 1
Updated Row : 1
Movie Details : 3 Animal Action 2023
All Movies Details :
1 3 Idiots Comedy 2015
3 Animal Action 2023
4 Parasite Love 2021

Process finished with exit code 0
```