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LAB 6
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1. Write a JDBC program to check the given username and password with table and give successfull message or failure message about login credentials.

Package

com.jdbc.example

;import java.sql.*;

import java.util.Scanner;

public class LoginCheck {

  public static void main(String[] args) {

    // Get the username and password

    from the user Scanner sc = new

    Scanner(System.in);

    System.out.println("Enter your

    username:");

```java
        String username =
        sc.nextLine();
        System.out.println("Enter
        your password:"); String
        password = sc.nextLine();
        sc.close();

        // Connect to the database
        try {

            // Load the driver class
            Class.forName("com.mysql.cj.jdbc.Driver");

            // Create the connection object
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3
306/mydb", "root", "root");

            // Create the statement object
```

```java
        Statement stmt = con.createStatement();

        // Execute the query

        ResultSet rs = stmt.executeQuery("select * from
users where username = '" +username + "' and password
= '" + password + "'");

        // Check if the result set is empty or not
          if (rs.next()) {

            // If not empty, print successful message

            System.out.println("Login successful. Welcome, " +
            username + "!");

        } else {

            // If empty, print failure message

            System.out.println("Login failed. Invalid username or
            password.");

        }

        // Close the connection

        con.close();

} catch (Exception
                e) {

        // Handle any exceptions

e.printStackTrace(
                );
```

```
        }

    }

}
```

Output:

Enter your username:
root
Enter your
password:
@nagesh23

Login successful. Welcome, root!

Enter your
username:
root
Enter your
password:root

Login failed. Invalid username or password

2. Write a JDBC program to perform CRUD operations with student table.(attributes : roll, name, average marks, grade)

Package

com.jdbc.example

;import java.sql.*;

import java.util.Scanner;

public class StudentCRUD {

```
  public static void main(String[] args) {

    // Connect to the database

    try {

      // Load the driver class

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

      // Create the connection object

      Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3
306/mydb", "root", "root");

      // Create the statement object
```

```java
Statement stmt = con.createStatement();

// Create the scanner object

Scanner sc = new Scanner(System.in);

// Display the menu

System.out.println("Choose

an option:");

System.out.println("1. Create a new

student record");

System.out.println("2. Read an

existing student record");

System.out.println("3. Update an

existing student record");

System.out.println("4. Delete an

existing student record");
```

```java
System.out.println("5. Exit");

// Get the user choice

int choice = sc.nextInt();

// Perform the CRUD operation based on the choice

switch

  (choice)

  { case 1:

    // Create a new student

    record

    System.out.println("Enter the

    roll number:"); int roll =

    sc.nextInt();

    System.out.println("Enter the

    name:"); String name =

    sc.next();

    System.out.println("Enter the

    average marks:"); double avg =

    sc.nextDouble();

    System.out.println("Enter the
```

```java
            grade:");

            String grade = sc.next();

            // Execute the insert query

            int rows = stmt.executeUpdate("insert into student
            values (" + roll + ", '" + name
+ "', " + avg + ", '" + grade + "')");

            // Check if the insert was

            successful or notif (rows >

            0) {

                System.out.println("Student record created
                successfully.");

            } else {

                System.out.println("Student record creation failed.");

            }

            brea
        k;
        case

        2:

            // Read an existing student record
```

```java
System.out.println("Enter the roll
number to search:"); roll =
sc.nextInt();
// Execute the select query
ResultSet rs = stmt.executeQuery("select * from
student where roll = " + roll);
// Check if the result set is empty or not
if (rs.next()) {
  // If not empty, print the student details
  name         =
  rs.getString(2);
  avg          =
  rs.getDouble(3
  );   grade   =
  rs.getString(4);
  System.out.println("Student
  details found:");
  System.out.println("Roll: " +
  roll);
  System.out.println("Name: "
```

```java
            + name);

      System.out.println("Average

      marks: " + avg);

      System.out.println("Grade: "

      + grade);
    } else {

      // If empty, print not found message

      System.out.println("Student record not found.");

    }

    brea
k;
case
3:

      // Update an existing student

      record System.out.println("Enter

      the roll number to update:"); roll =

      sc.nextInt();

      // Execute the select query to check if the record
      exists or not

      rs = stmt.executeQuery("select * from student where
```

roll = " + roll);

// Check if the result set is empty or not

```java
if (rs.next()) {

    // If not empty, get the new values from the user

    System.out.println("Enter

    the new name:"); name =

    sc.next();

    System.out.println("Enter the new

    average marks:"); avg =

    sc.nextDouble();

    System.out.println("Enter

    the new grade:"); grade =

    sc.next();

    // Execute the update query

    rows = stmt.executeUpdate("update student
set name = '" + name + "', avg_marks = " + avg + ",
grade = '" + grade + "' where roll = " + roll);

    // Check if the update was successful or not

    if (rows > 0) {

        System.out.println("Student record updated
        successfully.");

    } else {
```

```java
            System.out.println("Student record update failed.");

        }

    } else {

        // If empty, print not found message

        System.out.println("Student record not found.");

    }

    brea
k;
case
4:
    //delete the number

    System.out.println("Enter the roll

    number to delete:"); roll =

    sc.nextInt();

    // Execute the delete query
```

```java
rows = stmt.executeUpdate("delete from student
where roll = " + roll);

// Check if the delete was successful or not

if (rows > 0) {

    System.out.println("Student record deleted
    successfully.");

} else {

    System.out.println("Student record deletion failed.");

}

    brea
k;
case
5:

    // Exit from the program

    System.out.println("Thank you for

    using this program.");break;
default:

    // Invalid choice

    System.out.println("Invalid option. Please choose a
    valid one.");
```

```
        }

        // Close the scanner, statement and connection objects

        sc.close();

        stmt.close();

        con.close();

    } catch (Exception e) {

        // Handle any

        exceptions

        e.printStackTrac

        e();

    }

  }

}
```

Output:

Choose an option:

1. Create a new student record

2. Read an existing student record

3. Update an existing student record

4. Delete an existing student record

5. Exit

Enter your choice: 1

Enter the roll

number: 101 Enter

the name:

Chandana Enter the

average marks:

85.5 Enter the

grade: A

Student record created successfully.

Choose an option:

1. Create a new student record

2. Read an existing student record

3. Update an existing student record

4. Delete an existing student record

5. Exit

Enter your choice: 2

Enter the roll number to

search: 101 Student

details found:

Roll: 101

Name:

Chandana

Average

marks: 85.5

Grade: A

Choose an option:

1. Create a new student record

2. Read an existing student record

3. Update an existing student record

4. Delete an existing student record

5. Exit

Enter your choice: 3

Enter the roll number to
update: 101 Enter the
new name: Akash

Enter the new average
marks: 90.0 Enter the
new grade: A+

Student record updated successfully.

Choose an option:

1. Create a new student record

2. Read an existing student record

3. Update an existing student record

4. Delete an existing student record

5. Exit

Enter your choice: 4

Enter the roll number

to delete: 101 Student

record deleted

successfully.

Choose an option:

1. Create a new student record

2. Read an existing student record

3. Update an existing student record

4. Delete an existing student record

5. Exit

Enter your choice: 5

Thank you for using this program.

3. Write the SQL Queries for the follwoing operations

a. create a table

b. insert record

c. view the record

d. update the record

e. delete a record

a. Create a table:

mysql> create database

Student; Query OK, 1

row affected (0.02 sec)

```
mysql> use Student;

Database changed

mysql> create table Student (rollno int primary key,
name varchar(20) not null, avg_marks decimal(5,2),
grade char(1));

Query OK, 0 rows

affected (0.05 sec)

mysql> desc Student;
```

```
mysql> desc Student;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| rollno    | int          | NO   | PRI | NULL    |       |
| name      | varchar(20)  | NO   |     | NULL    |       |
| avg_marks | decimal(5,2) | YES  |     | NULL    |       |
| grade     | char(1)      | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

b. Insert record:

mysql> insert into Student values

(1,'chandana',82.4,'A');Query OK, 1

row affected (0.01 sec)

mysql> insert into Student values

(2,'akash',85.4,'A');Query OK, 1

row affected (0.00 sec)

mysql> insert into Student values

(3,'chandu',66.6,'B');Query OK, 1

row affected (0.00 sec)

mysql> insert into Student values

(4,'raju',45.6,'c');Query OK, 1

row affected (0.00 sec)

mysql> insert into Student values

(5,'anu',35.5,'D');Query OK, 1

row affected (0.00 sec)

c. View the record:

SELECT * FROM your_table_name;

mysql> select * from Student where grade ='B';

d. Update the record:

mysql> update Student set

name='sharadha' where rollno =5;Query

OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select *from Student;

e. Delete a record:

mysql> delete from Student

where rollno=3; Query OK, 1

row affected (0.01 sec)

mysql> select * from Student;