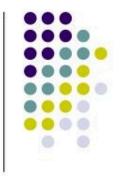
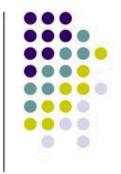
1. Connect to database



- Load JDBC driver
 - Class.forName("com.mysql.jdbc.Driver").newInstance();
- Make connection
 - Connection conn = DriverManager.getConnection(url);
- URL
 - Format: "jdbc:<subprotocol>:<subname>"
 - jdbc:mysql://128.100.53.33/GROUPNUMBER?user=USER&pass word=PASSWORD

2. Query database



- a. Create statement
 - Statement stmt = conn.createStatement();
 - stmt object sends SQL commands to database
 - Methods
 - executeQuery() for SELECT statements
 - executeUpdate() for INSERT, UPDATE, DELETE, statements
- b. Send SQL statements
 - stmt.executeQuery("SELECT ...");
 - stmt.executeUpdate("INSERT ...");

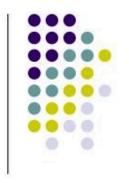




- Result of a SELECT statement (rows/columns) returned as a ResultSet object
 - ResultSet rs =
 stmt.executeQuery("SELECT * FROM users");
- Step through each row in the result
 - rs.next()
- Get column values in a row
 - String userid = rs.getString("userid");
 - int type = rs.getInt("type");

users table						
userid	firstname	lastname	password	type		
Bob	Bob	King	cat	0		
John	John	Smith	pass	1		

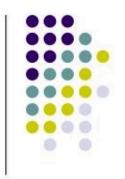
Print the users table



```
ResultSet rs = stmt.executeQuery("SELECT * FROM users");
while (rs.next()) {
   String userid = rs.getString(1);
   String firstname = rs.getString("firstname");
   String lastname = rs.getString("lastname");
   String password = rs.getString(4);
   int type = rs.getInt("type");
   System.out.println(userid + " " + firstname + " " +
        lastname + " " + password + " " + type);
}
```

users table						
<u>userid</u>	firstname	lastname	password	type		
Bob	Bob	King	cat	0		
John	John	Smith	pass	1		

Add a row to the users table



//]	Returi	1S	number	ΟÍ	rows	ın	table
int	rows	=	stmt.ex	кесі	ıteUpo	date	e(str);

users table						
<u>userid</u>	firstname	lastname	password	type		
Bob	Bob	King	cat	0		

4. Close connection to database



- Close the ResultSet object
 - rs.close();

- Close the Statement object
 - stmt.close();

- Close the connection
 - conn.close();

```
import java.sql.*;
public class Tester {
  public static void main(String[] args) {
     try {
         // Load JDBC driver
         Class.forName("com.mysql.jdbc.Driver").newInstance();
         // Make connection
         String url =
               "jdbc:mysql://128.100.53.33/GRP?user=USER&password=PASS"
         Connection conn = DriverManager.getConnection(url);
         // Create statement
         Statement stmt = conn.createStatement();
         // Print the users table
         ResultSet rs = stmt.executeQuery("SELECT * FROM users");
         while (rs.next()) {
         // Cleanup
         rs.close(); stmt.close(); conn.close();
    catch (Exception e) {
         System.out.println("exception " + e);
```