import java.sql.\*;

public class ReadDatabaseStructureExample {

    public static void main(String[] args) {

        String url = "jdbc:mysql://localhost:3306/college";

        String username = "root";

        String password = "password";

        try (Connection conn = DriverManager.getConnection(url, username, password)) {

            DatabaseMetaData meta = conn.getMetaData();

            String catalog = null, schemaPattern = null, tableNamePattern = null;

            String[] types = {"TABLE"};

            ResultSet rsTables = meta.getTables(catalog, schemaPattern, tableNamePattern, types);

            while (rsTables.next()) {

                String tableName = rsTables.getString(3);

                System.out.println("\n=== TABLE: " + tableName);

                String columnNamePattern = null;

                ResultSet rsColumns = meta.getColumns(catalog, schemaPattern, tableName, columnNamePattern);

                ResultSet rsPK = meta.getPrimaryKeys(catalog, schemaPattern, tableName);

                while (rsColumns.next()) {

                    String columnName = rsColumns.getString("COLUMN\_NAME");

                    String columnType = rsColumns.getString("TYPE\_NAME");

                    int columnSize = rsColumns.getInt("COLUMN\_SIZE");

                    System.out.println("\t" + columnName + " - " + columnType + "(" + columnSize + ")");

                }

                while (rsPK.next()) {

                    String primaryKeyColumn = rsPK.getString("COLUMN\_NAME");

                    System.out.println("\tPrimary Key Column: " + primaryKeyColumn);

                }

            }

        } catch (SQLException ex) {

            System.out.println(ex.getMessage());

            ex.printStackTrace();

        }

    }

}

Output:

