JFS PRACTICALS

Practical 5 :

Write a Java program using JDBC to Connect with database and fetch Student record

and insert records in Student table.

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| JdbcConnectivity.java  package Practical\_5;  import java.sql.Connection; import java.sql.Driver; import java.sql.DriverManager; import java.sql.SQLException;  public class JdbcConnectivity {   public static Connection getDatabaseConnectivity ()  {   try  {  Class.*forName*("com.mysql.cj.jdbc.Driver");  return DriverManager.*getConnection*("jdbc:mysql://localhost:3306/jfs\_practicals","root","Om/525325..??");  }  catch(Exception exception)  {  System.*out*.println(exception);  }  return null;    } } |

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| Student.java  package Practical\_5;  public class Student {  private int id;  private String name;  private int roll\_no;  private String email;   public Student (String name,int roll\_no , String email)  {  this.name = name;  this.roll\_no = roll\_no;  this.email = email;  }   public Student()  {  // default constructor ;  }   public int getId() {  return id;  }   public void setId(int id) {  this.id = id;  }   public String getName() {  return name;  }   public void setName(String name) {  this.name = name;  }   public int getRoll\_no() {  return roll\_no;  }   public void setRoll\_no(int roll\_no) {  this.roll\_no = roll\_no;  }   public String getEmail() {  return email;  }   public void setEmail(String email) {  this.email = email;  } } |

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| StudentDao.java  package Practical\_5;  import javax.xml.transform.Result; import java.sql.Connection; import java.sql.ResultSet; import java.sql.SQLException; import java.sql.Statement;  public class StudentDao {  private static Connection *connection* ;  private static Statement *smt*;   static {  try {  *connection* = JdbcConnectivity.*getDatabaseConnectivity*();  *smt* = *connection*.createStatement();  } catch (SQLException e) {  System.*out*.println(e);  }  }   public String insertRecord(Student student)  {  String query = "insert into students (name,roll\_no,email) values ('"+student.getName()+"' , "+student.getRoll\_no()+" , '"+student.getEmail()+"')";  try {  Boolean result = *smt*.execute(query);  if(!result)  {  return "Student record inserted succesfully !!";  }  else  return "Transaction was unsuccesfull !!" ;  }  catch (Exception ex)  {  System.*out*.println(ex);  }   return "Transaction was unsuccesfull !!";   }   public Student fetchRecord(int id)  {  String query = "select \* from students where id = "+id;  Student s = new Student();  try  {  ResultSet rs = *smt*.executeQuery(query);  while (rs.next())  {  s.setId(rs.getInt("id"));  s.setName(rs.getString("name"));  s.setRoll\_no(rs.getInt("roll\_no"));  s.setEmail(rs.getString("email"));   }  }  catch (Exception exception)  {  System.*out*.println(exception);  }  return s;  } } |

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| Main.java  package Practical\_5;  import java.sql.Connection; import java.sql.Statement; import java.util.Scanner;  public class Main {    public static void main(String [] args)  {  Scanner sc = new Scanner(System.*in*);  StudentDao studentDao = new StudentDao();  int choise;  System.*out*.println("Enter:\n1. Insert record.\n2. Fetch Record.\n");  choise = sc.nextInt();   switch (choise)  {  case 1:  System.*out*.println("Enter name:" );  String name = sc.nextLine();  sc.nextLine();  System.*out*.println("Enter roll No:");  int rollno = sc.nextInt();  sc.nextLine();  System.*out*.println("Enter Email:");  String email = sc.nextLine();  Student student = new Student(name,rollno,email);  String result = studentDao.insertRecord(student);  System.*out*.println(result);  break;   case 2:  System.*out*.println("Enter the ID of the record:");  int id = sc.nextInt();  Student s = studentDao.fetchRecord(id);  if(s == null)  System.*out*.println("Transaction was Unsuccesfull");  else  {  System.*out*.println("Student records are:");  System.*out*.println("ID: "+s.getId());  System.*out*.println("Name: "+s.getName() );  System.*out*.println("Roll No: "+s.getRoll\_no());  System.*out*.println("Email: "+s.getEmail());  }  break;   default:  System.*out*.println("Invalid Choise !!");    }    } } |

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| OUTPUT: |

Practical 8:

Design class Student with fields like id, Name and Email and generate table with this fields in database using hibernate framework.

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| DatabaseConnectivity.java  package org.example;  import org.hibernate.Session; import org.hibernate.SessionFactory; import org.hibernate.cfg.Configuration;  public class DatabaseConnectivity {  public static Session *session*;   static  {  *session* = *getDatabaseConnectivity*();  }    public static Session getDatabaseConnectivity()  {   SessionFactory sessionFactory = new Configuration().configure().buildSessionFactory();  return sessionFactory.openSession();  }  } |

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| Student.java  package org.example;  import javax.persistence.\*;  @Entity @Table(name = "students") public class Student {  @Id  @GeneratedValue(strategy = GenerationType.*IDENTITY*)  private int id;  private String name;  private int roll\_no;  private String email;   public Student(int id, String name, int roll\_no, String email) {  this.id = id;  this.name = name;  this.roll\_no = roll\_no;  this.email = email;  }   public Student() {  // Default Constructor  }   public int getId() {  return id;  }   public void setId(int id) {  this.id = id;  }   public String getName() {  return name;  }   public void setName(String name) {  this.name = name;  }   public int getRoll\_no() {  return roll\_no;  }   public void setRoll\_no(int roll\_no) {  this.roll\_no = roll\_no;  }   public String getEmail() {  return email;  }   public void setEmail(String email) {  this.email = email;  }   @Override  public String toString() {  return "Student{" +  "id=" + id +  ", name='" + name + '\'' +  ", roll\_no=" + roll\_no +  ", email='" + email + '\'' +  '}';  } } |

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| StudentDao.java  package org.example;  import org.hibernate.Session;  public class StudentDao {  public Session session = DatabaseConnectivity.*session*;   public void insertRecord(Student student)  {  try  {  session.beginTransaction();  session.save(student);  session.getTransaction().commit();  session.close();  System.*out*.println("Student Record inserted succesfully!!");  }  catch (Exception exception)  {  System.*out*.println("Transaction was Unsuccesfull !!");  }   }   public void fetchRecord(int id)  {  try  {  session.beginTransaction();  Student s = session.get(Student.class,id );  System.*out*.println("Student Details are:");  System.*out*.println("ID: "+s.getId());  System.*out*.println("Name: "+s.getName() );  System.*out*.println("Roll No: "+s.getRoll\_no());  System.*out*.println("Email: "+s.getEmail());  session.getTransaction().commit();  session.close();  }  catch (Exception exception)  {  System.*out*.println("Transaction was unsuccesfull!!");  }  } } |

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| App.java  package org.example;  import org.hibernate.Session;  import javax.xml.crypto.Data; import java.util.Scanner;  */\*\*  \* Hello world!  \*  \*/* public class App  {  public static void main( String[] args )  {  Scanner sc = new Scanner(System.*in*);  StudentDao studentDao = new StudentDao();  int choise;    System.*out*.println("Enter:\n1. Insert student record.\n2. Fetch Student Record.");  choise = sc.nextInt();  sc.nextLine();  switch (choise)  {  case 1:  Student student = new Student();  System.*out*.println("Enter Details:");  System.*out*.println("Name:");  student.setName(sc.nextLine());  System.*out*.println("Roll No:");  student.setRoll\_no(sc.nextInt());  System.*out*.println("Email:");  sc.nextLine();  student.setEmail(sc.nextLine());  //System.out.println(student);  studentDao.insertRecord(student);  break;   case 2:  System.*out*.println("Enter ID:");  int id = sc.nextInt();  studentDao.fetchRecord(id);  break;   default:  System.*out*.println("Invalid Choise !!");   }  } } |

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| OUTPUT: |