

# 数据库程序设计实验报告

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## 第一部分

### 1.2 第二题

代码如下：

```
package lesson9;

import java.sql.*;

public class ConnectToMySQL {
    public static Connection getConnection() throws
SQLException, java.lang.ClassNotFoundException{
        String url="jdbc:mysql://219.246.90.88:3306/test";
        Class.forName("com.mysql.cj.jdbc.Driver");
        String userName="lucas";
        String password="368611020xyq....";
        Connection con= DriverManager.getConnection(url,userName,password);
        return con;
    }

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

            Connection con=getConnection();
            Statement sql=con.createStatement();
            sql.execute("drop table if exists student");

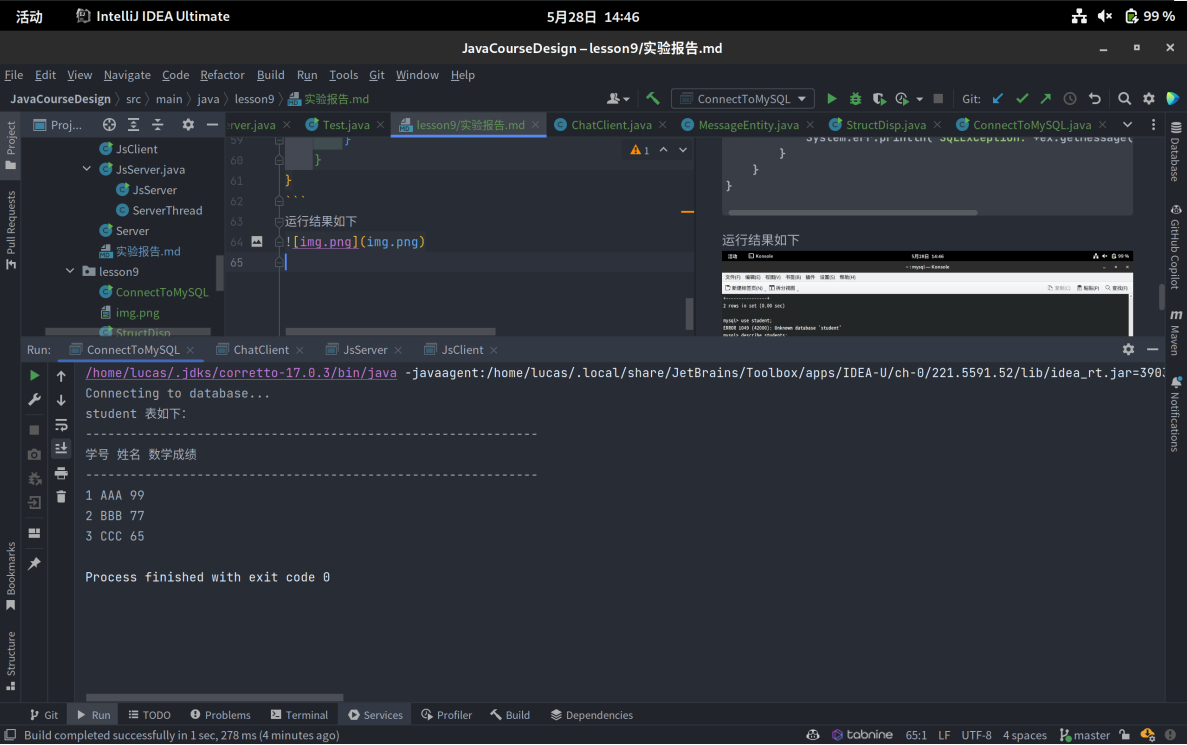
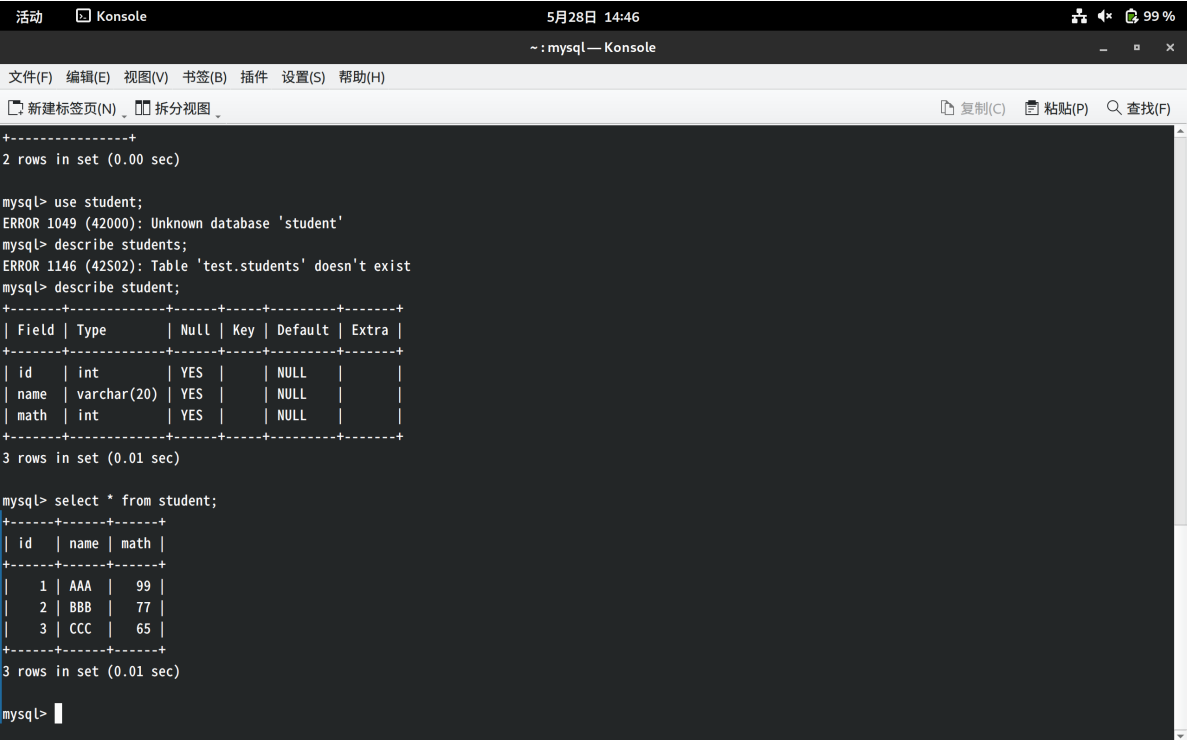
            sql.execute("create table student(id int,name varchar(20),math
int)");

            sql.execute("insert student values(1,'AAA','99')");
            sql.execute("insert student values(2,'BBB','77')");
            sql.execute("insert student values(3,'CCC','65')");

            String query="select * from student";
            ResultSet result=sql.executeQuery(query);
            System.out.println("student 表如下: ");
            System.out.println("-----");
            System.out.println("学号"+" "+"姓名"+" "+"数学成绩");
            System.out.println("-----");
            System.out.println("-----");
            int number;
            String name ;
            String math;
```

```
        while(result.next()){
            number=result.getInt("id");
            name=result.getString("name");
            math=result.getString("math");
            System.out.println(number+" "+name+" "+math);
        }
        sql.close();
        con.close();
    }catch (java.lang.ClassNotFoundException e){
        System.err.println("ClassNotFoundException:"+e.getMessage());
    }catch(SQLException ex){
        System.err.println("SQLException:"+ex.getMessage());
    }
}
}
```

运行结果如下



## 第二部分

代码如下：

```
package lesson9;

import java.io.*;
import java.sql.*;

public class StructDisp {
    static String colLabel[];
    static int colCount;
```

```

public static void main(String[] args) {
    try{
        Class.forName("com.mysql.jdbc.Driver");
    }catch (ClassNotFoundException e){
        System.out.println(e.getMessage());
    }
    try{
        String url="jdbc:mysql://219.246.90.88:3306/test";
        String userName="lucas";
        String password="368611020xyq....";
        Connection con= DriverManager.getConnection(url,userName,password);
        Statement stm=con.createStatement();
        boolean status=stm.execute("select * from stu");
        ResultSet rs=stm.getResultSet();
        showStruct(rs);
        showData(rs);
        stm.close();
    }catch(SQLException e){
        System.out.println(e.getSQLState());
    }catch (IOException e2){
        System.out.println(e2.getMessage());
    }
}

public static void showStruct(ResultSet rs)throws IOException,SQLException{
    ResultSetMetaData md=rs.getMetaData();
    colCount=md.getColumnCount();
    colLabel=new String[colCount+1];

    System.out.println("=====
=====");
    for(int i=1;i<=colCount;i++){
        colLabel[i]=md.getColumnLabel(i);
        System.out.printf(""+colLabel[i]+"\\t");

    }

    System.out.println("\\n=====
=====");

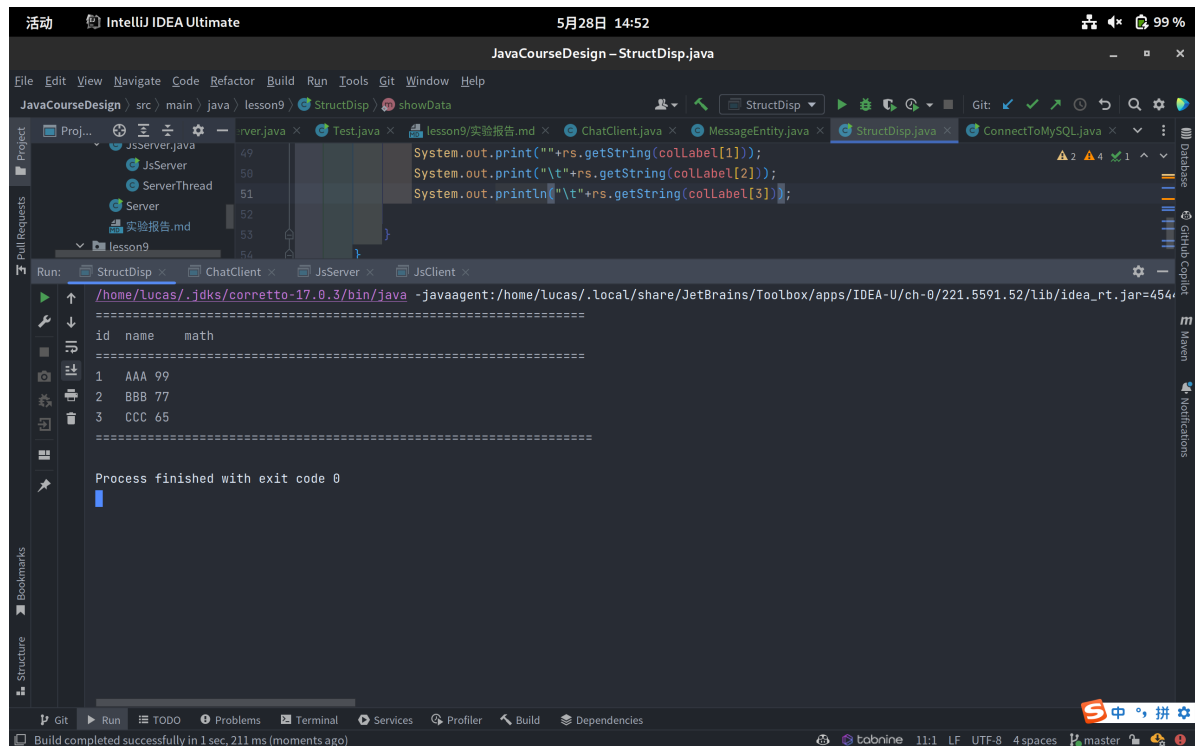
}

public static void showData(ResultSet rs)throws IOException,SQLException{
    if(rs!=null){
        while(rs.next()){
            System.out.print(""+rs.getString(colLabel[1]));
            System.out.print("\\t"+rs.getString(colLabel[2]));
            System.out.print("\\t"+rs.getInt(colLabel[3]));
            System.out.println("\\t"+rs.getInt(colLabel[4]));
        }
    }

    System.out.println("=====
=====");
}
}

```

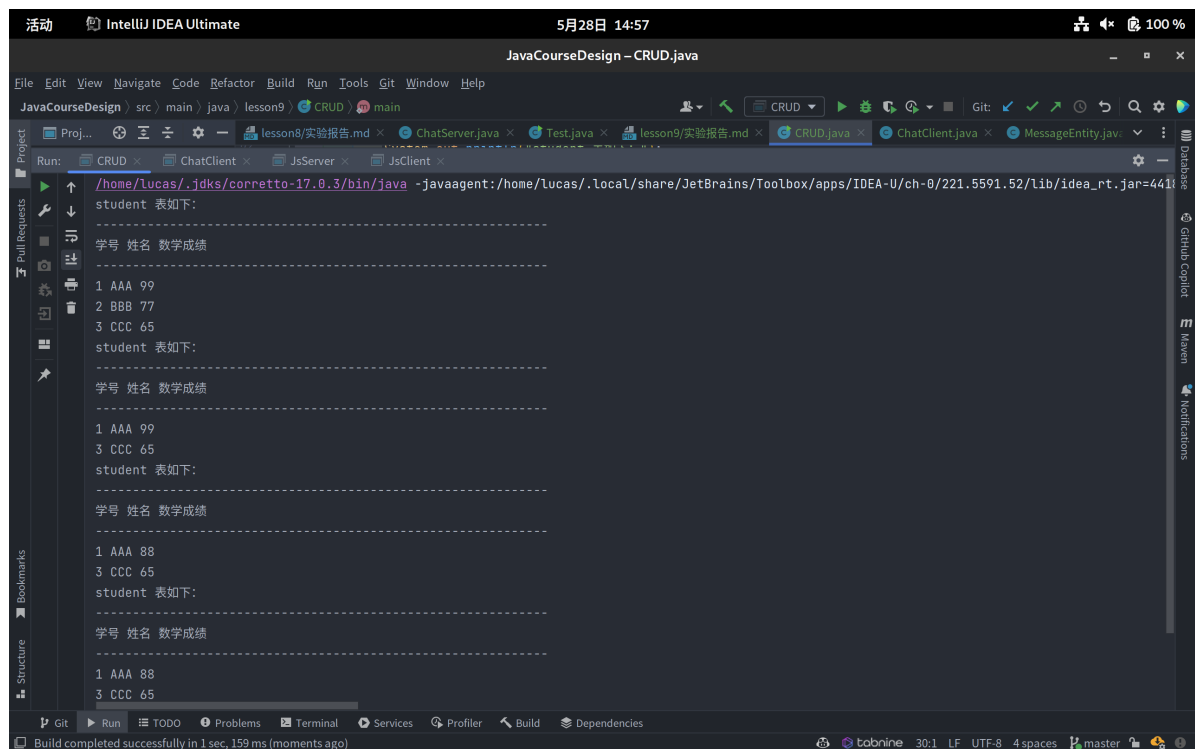
运行结果如下：



```
Run: StructDisp x ChatClient x JsServer x JsClient x
/home/Lucas/.jdk/corretto-17.0.3/bin/java -javaagent:/home/Lucas/.local/share/JetBrains/Toolbox/apps/IDEA-U/ch-0/221.5591.52/lib/idea_rt.jar=454
=====
id name math
=====
1 AAA 99
2 BBB 77
3 CCC 65
=====
Process finished with exit code 0
```

## 第三部分 CRUD程序

结果如下：



```
Run: CRUD x ChatClient x JsServer x JsClient x
/home/Lucas/.jdk/corretto-17.0.3/bin/java -javaagent:/home/Lucas/.local/share/JetBrains/Toolbox/apps/IDEA-U/ch-0/221.5591.52/lib/idea_rt.jar=441
student 表如下:
=====
学号 姓名 数学成绩
=====
1 AAA 99
2 BBB 77
3 CCC 65
student 表如下:
=====
学号 姓名 数学成绩
=====
1 AAA 99
3 CCC 65
student 表如下:
=====
学号 姓名 数学成绩
=====
1 AAA 88
3 CCC 65
student 表如下:
=====
学号 姓名 数学成绩
=====
1 AAA 88
3 CCC 65
```

代码如下：

```
package lesson9;

import java.sql.*;

/**
 * a typical crud program
 */
public class CRUD {
```

```

public static void main(String[] args) {
    try {
        Class.forName("com.mysql.cj.jdbc.Driver");
    } catch (ClassNotFoundException e) {
        System.out.println(e.getMessage());
    }
    try {
        String url = "jdbc:mysql://219.246.90.88:3306/test";
        String userName = "lucas";
        String password = "368611020xyq....";
        Connection con = DriverManager.getConnection(url, userName,
password);
        Statement sql = con.createStatement();
        sql.execute("drop table if exists student");
        sql.execute("create table student(id int,name varchar(20),math
int)");

        sql.execute("insert student values(1,'AAA','99')");
        sql.execute("insert student values(2,'BBB','77')");
        sql.execute("insert student values(3,'CCC','65')");
        String query = "select * from student";
        ResultSet result = sql.executeQuery(query);
        System.out.println("student 表如下: ");
        System.out.println("-----");
        System.out.println("学号" + " " + "姓名" + " " + "数学成绩");
        System.out.println("-----");
        int number;
        String name;
        String math;
        while (result.next()) {
            number = result.getInt("id");
            name = result.getString("name");
            math = result.getString("math");
            System.out.println(number + " " + name + " " + math);
        }
        //delete
        sql.execute("delete from student where id=2");
        sql.execute("select * from student");
        result = sql.executeQuery(query);
        System.out.println("student 表如下: ");
        System.out.println("-----");
        System.out.println("学号" + " " + "姓名" + " " + "数学成绩");
        System.out.println("-----");
        while (result.next()) {
            number = result.getInt("id");
            name = result.getString("name");
            math = result.getString("math");
            System.out.println(number + " " + name + " " + math);
        }
        //change
        sql.execute("update student set math=88 where id=1");
        sql.execute("select * from student");
    }
}

```

```

        result = sql.executeQuery(query);
        System.out.println("student 表如下: ");
        System.out.println("-----");
        System.out.println("学号" + " " + "姓名" + " " + "数学成绩");
        System.out.println("-----");
        while (result.next()) {
            number = result.getInt("id");
            name = result.getString("name");
            math = result.getString("math");
            System.out.println(number + " " + name + " " + math);
        }
        //insert
        sql.execute("insert student values(4,'DDD','66')");
        sql.execute("select * from student");
        result = sql.executeQuery(query);
        System.out.println("student 表如下: ");
        System.out.println("-----");
        System.out.println("学号" + " " + "姓名" + " " + "数学成绩");
        System.out.println("-----");
        while (result.next()) {
            number = result.getInt("id");
            name = result.getString("name");
            math = result.getString("math");
            System.out.println(number + " " + name + " " + math);
        }
        sql.close();
        con.close();
    } catch (SQLException e) {
        throw new RuntimeException(e);
    }
}
}

```