Beginner Java(JD521)

Formal Assessment 2

FEBRUARY 24

COMPANY NAME

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Logo Name

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Introduction

We were ask to write a program that print results obtained from a student we had to make a class named student and declare the student number and the assignment results and test results and exam results in the class and to create a constructor that accepts the fields of the student and stores it with in the class's fields and create get methods to get values from user with the help of a JOPtionPane and create a class called Student_Report that inherits from the student class and that overrides all getter methods from the student class and we need to implement error handling code and then calculate the student results with the weighting method and then print the resulting data.

Program Content

Source Code:

Class Student:

```
1   /*
2    * To change this license header, choose License Headers in Project Properties.
3    * To change this template file, choose Tools | Templates
4    * and open the template in the editor.
5    */
6   package studentmarksreport;
7
8   /**
9    *
10   * @author Albert Michael Ludick
11   */
    public class Student {
13      protected String studentNumber;//Protected due to inheritances
14      protected int assignmentResult;
15      protected int testResult;
16      protected int examResult;
```

Created class Student and Declared the Fields for the Student Number, Assignment Results, Test Results, Exam Results and made them protected due to Student Report class Inheriting from Student class

```
public class Student {
    protected String studentNumber;//Protected due to inheritancesD
    protected int assignmentResult;
    protected int testResult;
    protected int examResult;
```

Custom Constructor that Accepts the variables as parameters to assign to the class fields

```
17
18      public Student(String studentNumber,int assignmentResult,
19              int testResult,int examResult)//custom constructor
20      {
21          this.studentNumber=studentNumber;
22          this.assignmentResult=assignmentResult;
23          this.testResult=testResult;
24          this.examResult=examResult;
25      }
26      public Student(){}//defualt constructor
27
```

The Getter methods for the Class to write and read from class fields with JOPtionPane

```java
    public String getStudentNumber(){//Read-Only Method(Property)
     return studentNumber;
    }
    public int getAssignmentResult(){//Read-Only Method(Property)
     return assignmentResult;
    }
    public int getTestResult(){//Read-Only Method(Property)
     return testResult;
    }
    public int getExamResult(){//Read-Only Method(Property)
     return examResult;
    }
}
```

class Student_Report:

Import Statements for the JOPtionPane

```
5  └  */
6     package studentmarksreport;
7  ⊟  import javax.swing.JOptionPane;
8  ⊟  /**
```

The Student_Report Class Inherits from the Student Class and the Respected Fields

And Accepts variables to assign to fields in Student class with default constructor

```
12    public class Student_Report extends Student{
13       public Student_Report(String studentNumber,int assignmentResult,
14             int testResult,int examResult)//custom constructor
15  ⊟     {
16           super(studentNumber,assignmentResult,testResult,examResult);
17  └     }
18  ⊟     public Student_Report(){}//defualt constructor
19
```

Getter methods from the Student class that is Overridden here by the Student Report Class

```
    @Override
    public String getStudentNumber(){//Read-Only Method(Property)
     return studentNumber;
    }
    @Override
     public int getAssignmentResult(){//Read-Only Method(Property)
      return assignmentResult;
    }
    @Override
     public int getTestResult(){//Read-Only Method(Property)
      return testResult;
    }
    @Override
     public int getExamResult(){//Read-Only Method(Property)
      return examResult;
    }
```

The Weighting System Method to determine the student results

```java
/**
*This Method Uses Student class Fields to Calculate the GrandTotale Percentage
* that the student obtains from his assignments and his test and exams
* and returns that value
* @return Double value GrandTotale for marks in report
*/
    public double MathForGrandTotal(){
       double assignmentFactors =0.25;
        double testFactors =0.25;
         double examFactors =0.5;
          double Grandtotale =getAssignmentResult()*assignmentFactors
                  +getTestResult()*testFactors
                   +getExamResult()*examFactors;
             return Grandtotale;
    }
```

```java
    public double MathForGrandTotal(){
       double assignmentFactors =0.25;
        double testFactors =0.25;
         double examFactors =0.5;
          double Grandtotale =getAssignmentResult()*assignmentFactors
                  +getTestResult()*testFactors
                   +getExamResult()*examFactors;
             return Grandtotale;
    }
```

The Print Report Method to Print the Data and results that the Student Received

```java
/**
 * This Method is used to Receive student data and to print it to the user
 * using a JOPtionPane to the User
 */
    public void print_report(){
        JOptionPane.showMessageDialog(null,"This is the student number"
                    +getStudentNumber()+"this is the Assignment Results :"
                    +getAssignmentResult()+"%"+"This is the Test Results"
                    +getTestResult()+"%"+"This is the Exam Results"
                    +getExamResult()+"%"+"this is the GrandTotale :"
                    +MathForGrandTotal()+"%");
    }
```

```java
public void print_report(){
    JOptionPane.showMessageDialog(null,"This is the student number"
            +getStudentNumber()+"this is the Assignment Results :"
            +getAssignmentResult()+"%"+"This is the Test Results"
            +getTestResult()+"%"+"This is the Exam Results"
            +getExamResult()+"%"+"this is the GrandTotale :"
            +MathForGrandTotal()+"%");
}
```

Main class OR Entry Point

```
 5   └    */
 6        package studentmarksreport;
 7   ⊟    import javax.swing.JOptionPane;
 8   ⊟    /**
 9         *
10         * @author Albert Michael Ludick
11   └    */
12        public class StudentMarksReport {
13
14   ⊟        /**
15             * @param args the command line arguments
16   └        */
```

Instatiating the classes and asking user for input through the JOPtionPane

And Calling the Print Method

```
public static void main(String[] args) {
    try{
/Input Statements to get Student Data and return them to Print_Report Method
        String studentNumber =JOptionPane.showInputDialog("Plz enter your "
                + "Student Number");
        int AssignmentResults =Integer.parseInt(JOptionPane.showInputDialog
          ("Plz enter your Assignment Results"));
        int TestResults=Integer.parseInt(JOptionPane.showInputDialog
          ("Plz enter your Test Results"));
         int ExamResults=Integer.parseInt(JOptionPane.showInputDialog
          ("Plz enter your Exam Results"));
    //Instatiating the Student object to store data for the student_Report
        Student_Report Report1=new Student_Report(studentNumber,
                AssignmentResults,TestResults,ExamResults);
    //the print report method call to return the student marks and Results
        Report1.print_report();
```

9

Error Handeling below

```java
    catch(Exception ex){//Exception becuase want to catch all the exceptions
        JOptionPane.showMessageDialog(null,ex,"Error Message"
                ,JOptionPane.ERROR_MESSAGE);
    throw ex;
    }
}
```

Command Prompt Compile and running Commands

Setting the environment variables

CRL Command Prompt

```
C:\Program Files\Java\jdk1.8.0_241\bin>set path=C:\Program Files\Java\jdk1.8.0_241\bin

C:\Program Files\Java\jdk1.8.0_241\bin>
```

Changing directory into the project files

```
C:\Program Files\Java\jdk1.8.0_241\bin>E:

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\dist>_
```

```
E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport>_
```

Compiling the project

```
E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport>javac
StudentMarksReport.java
StudentMarksReport.java:21: error: cannot find symbol
    Student StudentData = new Student();
    ^
  symbol:   class Student
  location: class StudentMarksReport
StudentMarksReport.java:21: error: cannot find symbol
    Student StudentData = new Student();
                              ^
  symbol:   class Student
  location: class StudentMarksReport
StudentMarksReport.java:23: error: cannot find symbol
    Student_Report NewStudentReportData = new Student_Report();
    ^
  symbol:   class Student_Report
  location: class StudentMarksReport
StudentMarksReport.java:23: error: cannot find symbol
    Student_Report NewStudentReportData = new Student_Report();
                                              ^
  symbol:   class Student_Report
  location: class StudentMarksReport
4 errors

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport>
```

Running the project


```
StudentMarksReport.java:21: error: cannot find symbol
    Student StudentData = new Student();
                              ^
  symbol:    class Student
  location: class StudentMarksReport
StudentMarksReport.java:23: error: cannot find symbol
    Student_Report NewStudentReportData = new Student_Report();
    ^
  symbol:    class Student_Report
  location: class StudentMarksReport
StudentMarksReport.java:23: error: cannot find symbol
    Student_Report NewStudentReportData = new Student_Report();
                                              ^
  symbol:    class Student_Report
  location: class StudentMarksReport
4 errors

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport>java S
tudentMarksReport.java
Error: Could not find or load main class StudentMarksReport.java

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport> Stude
ntMarksReport.java

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport>java -
jar StudentMarksReport.java
Error: Invalid or corrupt jarfile StudentMarksReport.java

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport>java -
jar E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\dist
Error: Unable to access jarfile E:\Collage\CTU\Formatives\FA

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport>java -
jar E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\dist\studentMarksReport.j
ar
Error: Unable to access jarfile E:\Collage\CTU\Formatives\FA

E:\Collage\CTU\Formatives\FA 2\JD521_Albert Michael Ludick_StudentNumber_FA2\studentMarksReport\src\studentmarksreport>
```
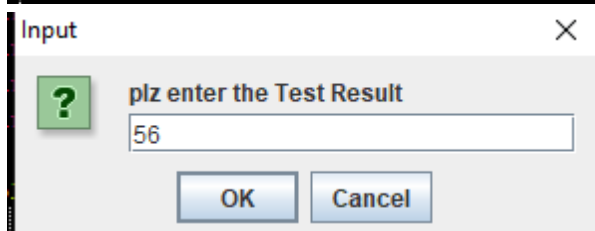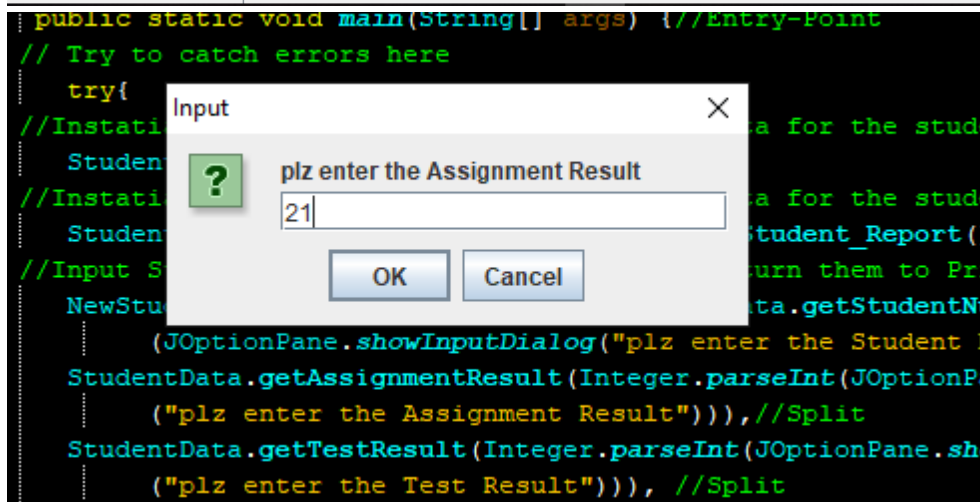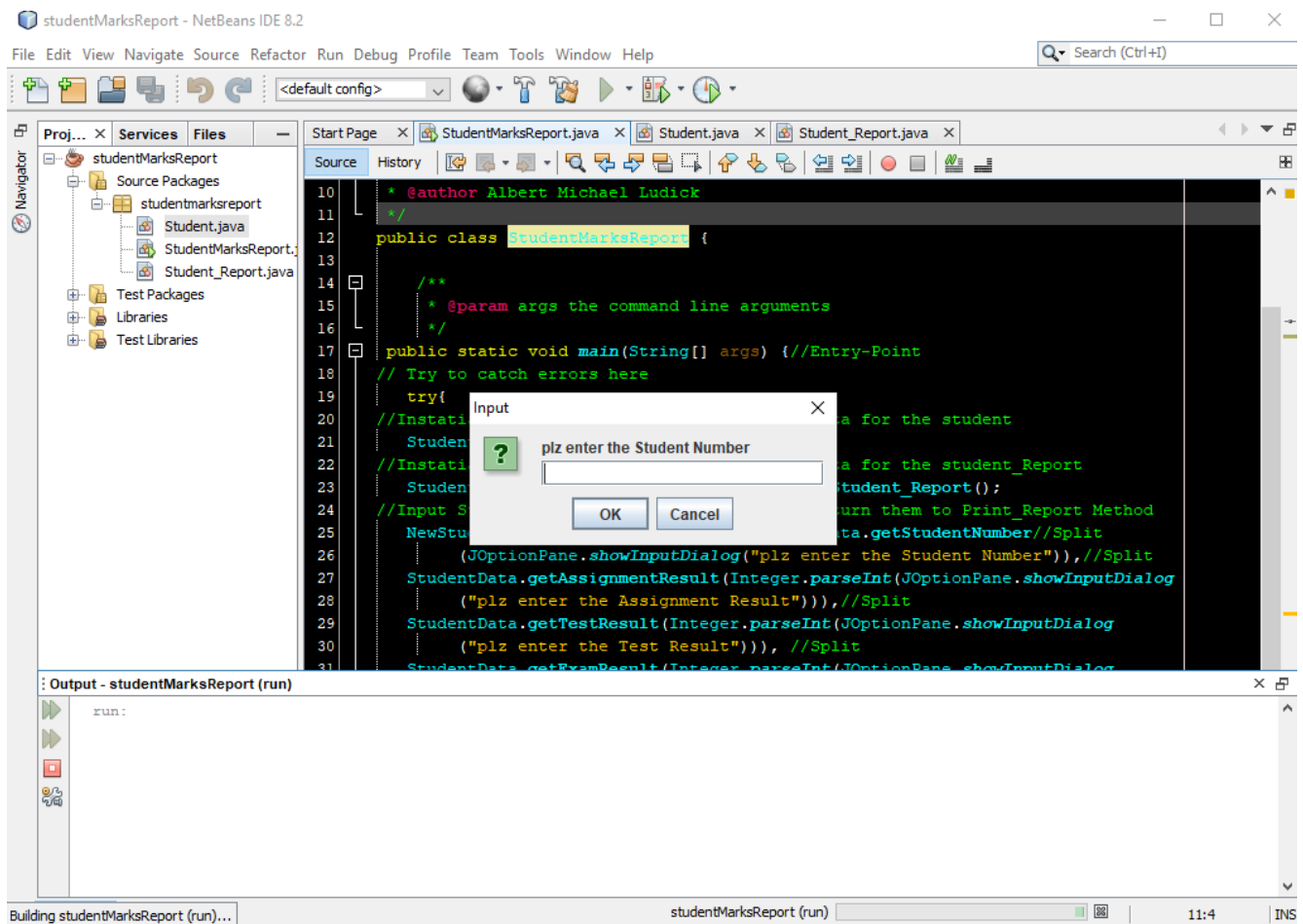
studentMarksReport - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+I)

<default config>

Proj... × Services   Files   —
studentMarksReport
  Source Packages
    studentmarksreport
      Student.java
      StudentMarksReport.j
      Student_Report.java
  Test Packages
  Libraries
  Test Libraries

Start Page ×   StudentMarksReport.java ×   Student.java ×   Student_Report.java ×

Source   History

```java
10      * @author Albert Michael Ludick
11      */
12     public class StudentMarksReport {
13
14         /**
15          * @param args the command line arguments
16          */
17         public static void main(String[] args) {//Entry-Point
18         // Try to catch errors here
19             try{
20         //Instati                              a for the student
21             Studen
22         //Instati                              a for the student_Report
23             Studen                             tudent_Report();
24         //Input S                              urn them to Print_Report Method
25             NewStu                             ta.getStudentNumber//Split
26                 (JOptionPane.showInputDialog("plz enter the Student Number")),//Split
27             StudentData.getAssignmentResult(Integer.parseInt(JOptionPane.showInputDialog
28                 ("plz enter the Assignment Result"))),//Split
29             StudentData.getTestResult(Integer.parseInt(JOptionPane.showInputDialog
30                 ("plz enter the Test Result"))), //Split
31             StudentData getExamResult(Integer parseInt(JOptionPane showInputDialog
```

Input ×

? plz enter the Student Number

OK   Cancel

Output - studentMarksReport (run)

run:

Building studentMarksReport (run)...   studentMarksReport (run)   11:4   INS

```java
    public static void main(String[] args) {//Entry-Point
// Try to catch errors here
    try{
//Instati                              a for the stude
    Studen
//Instati                              a for the stude
    Studen                             Student_Report(
//Input S                              urn them to Pr
    NewStu                             ta.getStudentN
        (JOptionPane.showInputDialog("plz enter the Student I
    StudentData.getAssignmentResult(Integer.parseInt(JOptionP
        ("plz enter the Assignment Result"))),//Split
    StudentData.getTestResult(Integer.parseInt(JOptionPane.sh
        ("plz enter the Test Result"))), //Split
```

Input ×

? plz enter the Assignment Result

21

OK   Cancel

Input ×

? plz enter the Test Result

56

OK   Cancel

Input ✕

? plz enter the Exam Result

65

OK   Cancel

Message ✕

ⓘ this is the results for : 12 this is the AssignmentResults :21%this is the test results : 56% this is the exam results : 65%and this is the grand Totale for the student : 51.75%

OK

ⓘ this is the results for : 12 this is the AssignmentResults :21%this is the test results : 56% th

OK

---

s : 56% this is the exam results : 65%and this is the grand Totale for the student : 51.75%

K

Conclusion:

I made a program that ask the user to input data through JOPtionPane and set it to the getter method and stores data in the student class and the student report class gets the data through the print report method the values from the getter in the student class and the weighting measure Method calculates the Results from the student class to determine the student marks and grand total and then print the data to the user through a JOPtionPane and I have Implemented Error Handling code

Bibliography & References:

Websites:

GeeksforGeek : https://www.geeksforgeeks.org/
And Javapoint : https://www.javatpoint.com/
Wiki How to do anything : https://www.wikihow.com/Calculate-Weighted-Average

Books:

Java_ A Beginner's Guide, Eighth Edition

Appendix

No Extra files or media.

Except for the project itself