Assignment 3

Before attempting this project, be sure you have completed all of the reading assignments, non-graded exercises, discussions, and assignments to date.

Write a Java program to calculate student's final course grade. The program should:
(1) Prompt and read user's input for the student's name, assignment 1 grade (A1), assignment 2 grade (A2), exam grade (EX), and participation grade (P). User Scanner to read input.
(2) Each grade input should be 0-100 and the final grade should be calculated as follows:
A1*0.25+A2*0.25+EX*0.4+P*0.1
(3) Output the student's information and the calculated course grade
(4) prompt user whether they want to calculate grade for another student and repeat the input/output processing
(5) Allow user to exit program without inputting student's data

Test program:
A minimum of 3 test cases should be supplied in the form of table with columns indicating the input values, expected output, actual output and if the test case passed or failed. This table should contain 4 columns with appropriate labels and a row for each test case. An example template is shown below. Note that the actual output should be the actual results you receive when running your program and applying the input for the test record.

The three minimum test cases should include:
(1) Run for one student's data
(2) Run for 2 students' data
(3) Start program but select to exit without inputting student's data

Make sure your Java program is using the recommended style such as:

- Javadoc comment up front with your name as author, date, and brief purpose of the program
- Comments for variables and blocks of code to describe major functionality
- Meaningful variable names and prompts
- Identifiers are written in upper CamelCase
- Class name starts with upper case letter and variables in lower case letter
- Constants are written in All Capitals
- Use proper spacing and empty lines to make code human readable

Capture execution:
You should capture and label screen captures associated with compiling your code, and running each of your 3 test cases.

Here are a couple sample runs:

RUN1:
```
Welcome to the grade calculation program
```

```
Do you want to enter student's data? Yes/No => Yes
Enter student's name => Alicja Jones
Enter student's grades separated by space: A1 A2 Ex P  => 80 95 90 88

Student Name: Alicja Jones A1=80 A2=95 Exam=90 Participation=88
Final course grade=88.55

Do you want to enter another student's data? Yes/No => Yes
Enter student's name => John Paul
Enter student's grades separated by space: A1 A2 Ex P  => 75 70 80 85

Student Name: John Paul A1=75 A2=70 Exam=80 Participation=85
Final course grade=76.75

Do you want to enter another student's data? Yes/No => No

Thank you for using the grade calculation program
```

RUN2:

```
Welcome to the grade calculation program
Do you want to enter student's data? Yes/No => No

Thank you for using the grade calculation program
```

Example test cases:

Input	Expected Output	Actual Output	Pass?
Name=Alicja Jones A1=80 A2=95 Ex=90 P=88 Name=John Paul A1=75 A2=70 Ex=80 P=85	Student Name: Alicja Jones A1=80 A2=95 Exam=90 Participation=88 Final course grade=88.55 Student Name: John Paul A1=75 A2=70 Exam=80 Participation=85 Final course grade=76.75	Student Name: Alicja Jones A1=80 A2=95 Exam=90 Participation=88 Final course grade=88.55 Student Name: John Paul A1=75 A2=70 Exam=80 Participation=85 Final course grade=76.75	Yes
Test Case 2			
Test Case 3			

Submission requirements

Deliverables include Java program (.java) and a single Word (or PDF) document. The Java and Word/PDF files should be named appropriately for the assignment (as indicated in the SubmissionRequirements document.

The word (or PDF) document should include screen captures showing the successful compiling and running of each of the test cases. Each screen capture should be properly labeled clearly indicated what the screen capture represents. The test cases table should be included in your Word or PDF document and properly labeled as well.

Submit your files to Assignment 3 submission area no later than the due date listed in your online classroom.

Grading Rubric:
The following grading rubric will be used to determine your grade:

Attribute	**Level (15-20 points)**	**Level (5-15 points)**	**Level 0 (0 - 5 points)**
User input and loop	Correct or almost correct prompts and captured input and loop code	Mistakes in prompts and/or capture of input and/or loop	Missing or close to missing user input and/or loop
Calculation	Correct or almost correct calculation	Mistakes in calculations	Missing or significantly incorrect calculation
Application output	Correct or almost correct output	Mistakes in output data or format	Missing or significantly incorrect output
Test Cases	Correct or almost correct test cases and test execution	Mistakes or incomplete test cases and execution	Missing or significantly incorrect test cases
Program documentation and style	Correct or almost correct program comments, identifiers, and screen captures	Mistakes or incomplete documentation and/or style	Missing or significantly incorrect documentation and/or style