ReflectionLog: CourseGrades

Youdis

GradeBook Class

```java
package Mastery;
import java.util.Scanner;
public class GradeBook {
    //array to store each of the 12 students 5 test grades
    int[][] grades;
    //creating scanner object to record inputs of user
    Scanner input = new Scanner(System.in);
```

Creating a 2 dimensional array to store each of the 12 students 5 test grades as separate arrays all in one array. Creating Scanner object to record user inputs.

```java
public GradeBook() {
    grades = new int[12][5];
}
```

Constructor method to initialize the array for 12 students that each have 5 test grades.

```java
//loop through every student and ask user to enter each students 5 test grades then store its in the array
public void getGrades() {
    for(int student = 0; student< grades.length; student++) {
        System.out.println("Student " + (student + 1));
        for (int test = 0; test< grades[test].length; test++) {
            System.out.print("Please enter grade for test " + (test + 1) + ": " );
            grades[student][test] = input.nextInt();
        }

    }
}
```

getGrades method which will loop through the first dimension of the array(the students) and for every student it will loop through the 5 element array of each student which is supposed to store the test grades. Will then prompt the user for each test grade of every student and put them in the corresponding index(one less than the test number ex. Test four goes in index 3)

```java
//Takes parameter of student num to indicate which student it is then adds up all their tests grades and re
public double studentAvg(int studentNum) {
    double avg = 0;
    for (int test = 0; test<grades[studentNum-1].length; test++) {
        avg += grades[(studentNum-1)][test];
    }
    return (avg/5);
```

Takes an integer parameter which is correlated to a student's number this student will be the one whose test grades are taken to return an average. Will do this by looping through the students 5 element test grade array and adding all the grades to an avg variable. This variable will be divided by 5 and then the quotient will be returned as the student's average to where the method was called from.

```java
//Takes parameter of which test number then adds all of the students grades on that test and divides by 12 to get the average and
public double testAvg(int testNum) {
    int avg = 0;
    for(int student = 0; student < grades.length; student++) {
        avg += grades[student][testNum-1];

    }

    return (avg/12);
}
```

Takes an integer parameter which is the test number that the user wants to see the average of. Will loop through every student's array and only index the specific test number which was in the parameter. Will add every student's grade for this test into an avg variable and then divide it by 12 and return the quotient as the test average to where the method was called from.

Course Grades

```java
// TODO Auto-generated method stub
//creating scanner object to record inputs
Scanner input = new Scanner(System.in);
//Creating GradeBook object
GradeBook stuGrades = new GradeBook();
```

Creating a new Scanner and GradeBook object to record user inputs and record the 12 students 5 test grades.

```java
//using getGrades method to prompt the user for the 5 test grades for each of the 12 students
stuGrades.getGrades();
//showgGrades method to display the grades of all the students
stuGrades.showGrades();
```

Calling getGrades method to the GradeBook object to prompt the user for each of the 12 student's 5 test grades. Then calling the showGrades method to output the 5 test grades for each of the 12 students.

```java
System.out.print("Please enter student whose average you want: ");
//putting users answer as parameter for studentAvg method, then will print the return statement of that method as the students
System.out.print("Their average is: " + stuGrades.studentAvg(input.nextInt())+ "%");
```

Prompting the user for which student's average they want to see then outputting the return value of the studentAvg method, with the user's answer as its parameter, as the student's average.


```java
System.out.println("");
//prompting user for which test's average they want to see
System.out.print("Please which test's average you want to see: ");
//putting users answer as parameter for testAvg method, then will print the return statement of that method as the test's aver
System.out.println("The average is: " + stuGrades.testAvg(input.nextInt()) + "%");
```

Empty print statement to space out the previous output to this one. Prompting the user for which out of the test's average they want to view. Then will call the testAvg method with the user answer as the it's parameter. Then will outputthe return value of the method as the test's average.