

Reflection log

Coursegrades

```
package mastery;
```

```
import java.util.Scanner;
```

```
public class Coursegrades {
```

Imports scanner and creates class

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

```
    //Lets the user input values  
    Scanner in = new Scanner(System.in);
```

```
    //create Gradebook object to connect  
    Gradebook g = new Gradebook();
```

Creates new scanner object to record input and create object to connect Coursegrades to Gradebook class

```
    grades.getGrades();
```

```
    //uses showGrades method  
    grades.showGrades();
```

Uses getgrades method and showgrades method from Gradebook

```
    System.out.print("Please enter the students number to see their average: ");
```

```
    //stores user input as variable  
    int studentnum = in.nextInt();
```

```
    //makes studentnum the parameter for studentAvg method then outputs return value  
    System.out.print("Their average is: " + g.studentAvg(studentnum)+ "%");
```

Prompt user to enter which student they want to see the average of

Stores user input into studentnum

Show the average of the student they chose using studentnum making it the parameter of studentAvg method from Gradebook class then outputs the number

```

System.out.println("");

//prompts user for what test average they want to see
System.out.print("Please enter the test number to see the average: ");

//stores user input as variable
int testnum = in.nextInt();

//makes testnum as parameter for testAvg method then outputs the return :
System.out.println("The tests average is: " + g.testAvg(testnum) + "%");

```

The blank print statement is to create a new line

Prompt user to enter which test they want to see the average of

Then stores the user input into testnum

Show the average of the student they chose using studentnum making it the parameter of testAvg method from Gradebook class then outputs the number

Gradebook

```

package mastery;

import java.util.Scanner;

public class Gradebook {

    int[][] grades;

    //Lets the user input values
    Scanner in = new Scanner(System.in);

```

Imports scanner and creates class

Array to store test grades

Creates new scanner object to record input

```

    public Gradebook() {

        //initialize the array w
        grades = new int[12][5];
    }

```

Constructor method to initialize array with number of students and test

```

public void getGrades() {
    //loop through each student and asks user to enter each students grades then st
    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] = in.nextInt();}
        }
    }
}

```

Method to get the grades of the students from user input

For loop that repeats however many times the length of grades array is which is 12 and each time prints out the student number

Another for loop that repeats for however many times the test length of grades is which is 5 and each time prints out prompts for user to enter test grades for each student

```

public void showGrades() {
    //loops through each student's grades and outputs them below an output statement of the student
    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.println("Grade for test " + (test + 1) + ": " + grades[student][test] + "%");}
        }
    }
}

```

Method to show grades of the students from user input

For loop that repeats however many times the length of grades array is which is 12 and each time prints out the student number

Another for loop that repeats for however many times the test length of grades is which is 5 and each time prints out the test grades that the user entered

```

public double studentAvg(int student) {
    //takes int student to show which student it is then adds all
    double avg = 0;
    for (int test = 0; test < grades[student].length; test++) {
        avg += grades[(student)][test];
    }
    //returns the average of the student
    return (avg/5);
}

```

Method to show the students average

Int student to represent user input

Initialize double avg variable to add to later

For loop that repeats until it gets to the student number (example: the user input that they want to see student 12)

Then adds the grades of the students 5 tests to avg

Then returns avg divided by 5 to get the average of the students 5 tests

```

public double testAvg(int testNum) {
    //takes int testNum then adds all students grades on the te
    int avrg = 0;
    for(int student = 0; student < grades.length; student++) {
        avrg += grades[student][testNum-1];
    }
    //returns the average of a test
    return (avrg/12);
}

```

Method to show the students average

Int testNum to represent the user input

For loop that repeats until it gets to the student number (example: the user input that they want to see test 5)

Adds the grades of every students specific test so it adds every (example: test 5) grade entered and then adds it to avrg

Then returns avrg divided by 5 to get the average of the specific test number