CourseGrades ReflectionLogs -

I created the GradeBook array in the GradeBook file, and the object “book” with 5 rows and 12 columns based on the GradeBook method.

```
// GradeBook method with students and grades
public GradeBook(int grades, int students) {
    GradeBook = new int[grades][students];
}
```

```
Scanner Input = new Scanner(System.in);
// Create an object book with 5 rows and 12 columns (tests/students)
GradeBook book = new GradeBook(5, 12);
```

getGrades() function allows the user to input all the grades for the students, goes through test by test (student 1 grades for test 1, student 2 grades for test 1…)

```
// Method to get the grades from the user
public void getGrades() {
    for (int i = 0; i < GradeBook.length; i++) {
        for (int j = 0; j < GradeBook[0].length ; j++) {
            System.out.print("Enter student " + (j+1) + " grades for test " + (i+1) + " - ");
            int x = Input.nextInt();
            GradeBook[i][j] = x;
        }
      System.out.println("");
    }
}
```

showGrades() function displays all the grades in a tabular form

```
// Goes through each element in the array and displays them in a table form
public void showGrades() {
    for (int i = 0; i < GradeBook.length; i++) {
        for (int j = 0; j < GradeBook[0].length ; j++) {
            System.out.print(GradeBook[i][j] + " ");
        }
      System.out.println("");
    }
}
```

For the last two functions, the user inputs which student/test average they wish to view, and the program goes through a particular row/column and adds the values up, then divides it by the number of tests or students to get the average.

```
public void studentAvg(int num) {
    // Student Average
    double avg = 0;
    double sum = 0;
    for (int i = 0; i < GradeBook.length; i++) {
        sum += GradeBook[i][num-1];
    }
  System.out.print("Student " + (num) + " average is ");
  // Average is the sum divided by number of tests
  avg = sum/GradeBook.length;
  System.out.print(avg);
}

public void testAvg(int num) {
    // Test Average
    double avg = 0;
    double sum = 0;
    for (int i = 0; i < GradeBook[0].length; i++) {
        sum += GradeBook[num-1][i];
    }
  System.out.print("Test " + (num) + " average is ");
  // Average is the sum divided by number of students
  avg = sum/GradeBook[0].length;
  System.out.print(avg);
}
```