

Lab 4.1.1 Multi-dimensional arrays of variable length

Objectives

Familiarize the student with:

- creating two-dimensional arrays;
- accessing two-dimensional arrays;
- creating variable-length arrays.

Scenario

Write a program that will calculate the average grade of a student and print a summary report.

The following rules apply:

- a student may sign up for any number of courses;
- during a course, the student may receive any number of grades;
- grades are integer numbers in the range [1..5];
- the final grade for a course is the arithmetic mean of all grades received during the course;
- the overall final grade is the arithmetic mean of the final grades received for all the courses the student has taken.

All floating-point numbers printed by the program should be limited to two decimal points. The input is given in the following form:

```
C
N1 G11 G12 .. G1n
N2 G21 G22 .. G2n
.
.
Nc Gc1 Gc2 .. Gcn
Where:
C - number of courses taken by the student
Nx - number of grades received during course number x
Gab - b-th grade received in course number a
```

Example input

```
3
4 2 3 4 5
2 4 5
3 4 4 5
```

Example output

```
Course 1: final 3.50, grades: 2 3 4 5
Course 2: final 4.50, grades: 4 5
Course 3: final 4.33, grades: 4 3 5
Overall final 4.11
```