

Exercise

A professor organized the process of evaluation of students for a course on the basis of 2 intermediate tests, a final project and an oral exam. Tests are assigned a numerical evaluation between 1 and 15, the final project and the oral exam are assigned a numerical evaluation between 1 and 30. The final result of the exam is obtained by weighting the total evaluation of the tests by 40% and the other contributions by 30% each. Students are authorized to take the final exam only if the total of tests evaluation is 18 or higher. The exam is passed if the final result is 18 or higher. All considered numbers are rounded to the most appropriate integer number if an operation gives a real number as result.

We want to design a program that will provide the professor:

- The final evaluation for a student and for all students;
- The average evaluation of tests over all students;
- The maximum and minimum evaluation for tests over all students;
- The number of students that are authorized to take the final exam;
- The list of students that are authorized to take the final exam;
- The average evaluation of exams over all students;
- The average evaluation of exams over all students that passed the exam;
- Data to plot a histogram of results;
- Data to plot a histogram of the total evaluation of tests.