

CS 1173: Practice on vector indexing

This problem refers to an electronic grade book for a course.

Variable name	Contents
grades	an array containing the exam grades for a course with students in the rows and exams in the columns
gender	a column vector with an entry for each row of <code>grades</code> . The entry is 'male' for those students who are men and 'female' for those students who are women.
level	a column vector with an entry for each row of <code>grades</code> . The entries contain the level of each student ('freshman', 'sophomore', 'junior', 'senior', 'non-degree')

1. Suppose there are 50 students in the course and the course has 5 exams. Draw a picture of each array or vector indicating its size and the meaning of each column and row.

2. Write a MATLAB expression to find the class average on the first exam.

3. Write a MATLAB expression to find the number of women in the class.

4. Write a MATLAB expression to find the number of students who received a 90 or better on the first exam.

5. Write a MATLAB expression to find the number of freshmen and sophomores in the class.

6. Write a MATLAB expression to find the average exam score for the freshmen.

7. Write a MATLAB expression to find how many times a freshman had a 90 or better on an exam.

8. Write a MATLAB expression to calculate the percentage of A's (90 or better) earned on exams in the course.

9. Find the number of students who had exam scores of at least 80, but less than 90 on exam 1.

10. Write a MATLAB expression to find out who had the highest score on exam 1.