

16.216: ECE Application Programming

Fall 2014

Lecture 20: Key Questions

October 24, 2014

1. (Review) Explain the relationship between pointers and arrays, as well as the use of pointer arithmetic.
2. Explain how 2-D arrays are passed to functions.

3. **Example:** Say we have a program that stores student exam scores in a 2-D array:
- Each row represents an individual student
 - Each column represents one of the 3 exams

Write functions to:

- Calculate the exam average for each student and store it in a 1-D array that is accessible in the main program
 - Assume all exams have equal weight
- Calculate the average for each exam and store it in a 1-D array that is accessible in the main program
- Each function takes the same arguments:
 - The 2-D array
 - The # of students in the class
 - The 1-D array that will be used to hold the averages

3 (cont.) Extra space to write functions

4. Describe how character arrays can be used to represent strings in C.

5. Describe the C functions used for:
 - a. Copying one string to another
 - b. Comparing two strings
 - c. Checking the number of characters in a string
 - d. Concatenating two strings together