CMPS 1053 - 2-Dimensional Array Problems

1. int A[50][7];
Consider the first 6 columns represent exams scores & the last column will be the average. Write code to fill, by column, the exam grades. Then calculate and print the averages, numbering the averages (1...50), one average per line.

2. double B[100][100];
a) Sum and print the sum of the values on the main diagonal.
b) Sum and print the sum of the values of the non-main diagonal.

3. int A[100][75], B[100][75], C[100][75];
a) Write code to read data into A by rows then into B by columns.
b) Calculate elements in array C as the maximum value of the corresponding elements in A & B.
c) Calculate elements in array C as the sum of the corresponding elements in A & B.

4. int A[10][10] = {0};
a) Write code to fill array A with the integers 1 to 100 in a random manner. That is, generate a random row and random column for each value. If (by chance) you generate the same row and column a second time, just write over the previous number. That is, do NOT check to see if a zero is in the location, just insert the next value.
b) Write code to scan array A to determine & print the number of zeros remaining. As each zero is found, print its indices (row & column).

5. Convert each problem above to a function that can be called by main. The functions must be general and work for ANY sized arrays. The arrays and dimensions must be passed in to the function through the parameter list.