0) Read sections 12.1 and 12.2 of the course textbook.

1) Show the results of a **single pass** of the Quicksort algorithm as applied to the following list of integers. Sort the elements with the smallest element on the left and use the **rightmost element** as the partition.

   33  75  55  7  32  93  68  27  20  81  19  63  11  49  50  12  45

2) Consider the following binary elements.

   1  0  0  0  1
   1  0  0  1  0
   1  0  1  0  0
   0  1  1  1  1
   1  1  0  0  0
   0  0  0  0  1
   0  1  1  0  0
   1  0  1  0  1
   0  0  1  1  0
   1  0  1  1  0

   a) Show the result after performing one pass of the Radix Exchange sort algorithm.
   b) Using the original elements, show the result after performing one pass of the Straight Radix sorting algorithm.

3) Is Quicksort a stable sorting algorithm? Give justification for your answer.

4) Write a recursive algorithm to sum the N integers in an array. Use the following interface line:

   int sumRecursive (int A[ ], int n)

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**Submission information:**

This assignment is due at the start of class on Wednesday, October 14th. *Solutions must be typed.*