Recursion Lab

Part 1

Create an application according the following specifications.

1. Ask the user for an integer
2. Using a recursive algorithm, find the super digit of the integer and print it
3. The super digit is defined by the following rules
   1. If x is one digit, x is the super digit
   2. Otherwise, add all the digits together, if the resulting number is more than one digit, add its digits together. Repeat until you get one digit

Example:

SuperDigit(8957) -> 8+9+5+7 = 29

SuperDigit(29) -> 2+9 = 11

SuperDigit(11) -> 1+1 = 2

SuperDigit(2) -> 2

Part 2

Create an application according to the following specifications:

1. Ask the user for up to 7 characters
2. Store the characters in an array
3. Using a recursive algorithm, find and print all permutations of the given character set

Example:

Input is abc -> permutations are abc, acb, bac, bca, cab, cba

