1. Print an array/vector in reverse order using recursion.

Input	Output
4 3 5 4 2	2 4 5 3

2. Write a recursive function that checks whether a string is a palindrome (a palindrome is a string that's the same when it reads forwards and backwards.)
3. Given a nonnegative integer n, write a function that lists all strings formed from exactly n pairs of balanced parentheses. For example, given n = 3, you'd list these five strings:

   ((())) (()()) (())() ()(()) ()()()
4. Given a list of n distinct elements and a number k, write a function that lists all k element subsets of that list. Make sure not to output the same subset multiple times.
   For example for given, n = 4 and k = 3, you will have to output,

   1, 2, 3
   1, 2, 4
   1, 3, 4
   2, 3, 4

5. Given an integer n and a number k, write a function that lists all k element permutations of the list = {1, 2, 3, …., n}. For example for given, n = 4 and k = 2, you will have to output:

   1, 2
   1, 3
   1, 4
   2, 1
   2, 3
   2, 4
   3, 1
   3, 2
   3, 4
   4, 1
   4, 2
   4, 3

6. Given a number n, generate all n character passwords, subject to the restriction that every password must have a lowercase letter, an uppercase letter, and a digit. Passwords may only contain uppercase/lowercase letters, digits(0-9).