C/C++ Programming in UNIX

Lab 07

Create one single .c file and use functions for the questions (e.g. ex01, ex02, … for the function names)

1.   Given an array of string, find the longest common prefix of all elements. Example: abc, abd, abf then the result is: ab. If there is no prefix, just print "prefix not found"

2.   Remove duplicate elements from an array and return the new length. Do not create any temporary array

3.   Input 2 complex numbers using string then return a string that represents the product of those two. Result should use string. Complex number has the form of $a+bi$ ($i^2 = -1$, b can be negative or positive)

4.   Input 2 binary numbers using string then return the sum of those two. Result should use string. Example: $111 + 11 = 1010$

5.   Consider a T9 phone keypad layout (i.e. numeric key 2 is also used to input a, b or c), 1 and 0 are considered empty characters. Write a program to input a series of keypads pressed then output the possible combinations of letters. Example: input is [3, 6] then output [dm, dn, do, em, en, eo, fm, fn, fo]