

CSE110

Offline 3: Strings and Pointers

Problem 1: Replace All Numbers with Words

Write a program that will replace all the numbers in a given string with its word representation (e.g., '1' → "one") and save it in another string. Finally, print the new string. You must use pointers for string traversal. Consider the sample input and output below. All the numbers in the string will have at most one non-zero digit (e.g., 1, 05,100) and all the numbers will be less than 1000. However, the numbers may be left padded with zero. Consider the sample input and output below.

Sample Input	Sample Output
This is 1 string that contains 2 numbers	This is one string that contains two numbers
This is 0001 string that contains 0002 numbers	This is one string that contains two numbers
500 miles, 500 miles, 500 miles, 500 miles, Lord I'm five hundred miles from my home.	Five hundred miles, five hundred miles, five hundred miles, five hundred miles, Lord I'm five hundred miles from my home.
1, 2, 3, 4, 5, ... 10! And that's the way we count to 10!	One, two, three, four, five, ... ten! And that's the way we count to ten!

Problem 2: Longest Substring Without Repeating Characters

Write a program that for a given string will print the longest substring that contains all unique characters. Ignore repeating space characters. **Spaces won't contribute to the length calculation.** If there are multiple such substrings, print the **last** one. **You must use pointers for string traversal.** You are not allowed to use any other string than the input string. Consider the sample input and output below.

Sample Input	Sample Output
Find the longest substring in me without repeating characters	peating ch
abaaa	ba
abc123abc	123abc
A B C D E F	A B C D E F

Submission Guideline:

1. Create a folder using your roll number. Example: 2406xyz
2. Create a file named 1.c and solve problem 1 there.
3. Create another file named 2.c and solve problem 2 there.
4. Now, remove unnecessary files. The 2406xyz should contain only 1.c and 2.c files.
5. Zip it using name 2406xyz.zip
6. Submit it in the moodle.

Please do not copy from any sources (friends, internet, AI tools like ChatGPT, etc.). Doing so will result in a -100% penalty.

Students must strictly follow the input and output format. Do not include any extra print statements, as they may cause the solution to be rejected. Also follow the submission guideline.