

## CSE 5311 Lab Assignment 3

Due May 6, 2004

### Goal:

Understanding of suffix arrays.

### Requirements:

1. Write (and test) a program that creates a suffix array for a circular string. Your program must compile and execute on OMEGA. There should be a comment near the beginning of your code that indicates how to compile on OMEGA. The input, a single character string of length not exceeding 500 symbols, should be read from `stdin/cin`.

After performing the suffix array construction, your program should print the first string in the suffix array.

2. Email your code (as an attachment) to `yxb4544@omega.uta.edu` before 5:15 pm on May 6. The subject should include your name as recorded by the University.

### Getting Started:

1. The input string is to be interpreted as being circular, that is, it is viewed as wrapping back to the beginning. Thus, the strings “abcabc”, “bcabca”, and “cabcab” are the same. Also note that all “suffixes” will include all symbols in the original string.
2. You may borrow suffix array code from the class web page or other places (besides each other), but be sure to give appropriate credit in your comments.
3. You must use an algorithm that runs in no more than  $O(n \log n)$  time.
4. Even though the input will include a null terminator, it is not to be considered as part of the input circular string.
5. Unlike the conventional suffix array construction, it is possible that duplicate suffixes exist.