Tutorial Session 13

1. Consider the string W = 'XYZST'. List (a) all substrings of W and (b) all initial substrings of W.

2. Suppose S = ''WE THE PEOPLE' and T = 'OF THE UNITED STATES'

   i. Find (a) SUBSTRING (S, 4, 8) and SUBSTRING (T, 10, 5)
   ii. INDEX (S, 'P'), INDEX (S. 'E'), INDEX (T, 'THE'), and INDEX (T, 'THEN')

3. Suppose U is the text 'MARC STUDIES MATHEMATICS'

   Now find the INSERT operation to change U so that it reads:

   i. MARC STUDIES ONLY MATHEMATICS
   ii. MARC STUDIES MATHEMATICS AND PHYSICS
   iii. MARC STUDIES APPLIED MATHEMATICS

4. Consider the pattern P = a^3ba. Construct the table and the corresponding labeled directed graph used in the 'fast' pattern matching algorithm.

5. Consider the pattern P = abc. Using the "slow" pattern matching algorithm, find the number of C comparison to find the index of P in each of the following texts T:

   i. a^{10}
   ii. $(aba)^{10}$
   iii. $(cbab)^5$
   iv. d^{10}