Assignment 5 Problem 3

a) Compute the failure array for the pattern P =ababac.

b) Show how to search for pattern P =ababac in the text T =abcaabaababababacabcaa using the KMP algorithm. Indicate in a table such as Table **1** which characters of P were compared with which characters of T . Follow the example on slide 27 in module 8. Place each character of P in the column of the compared-to character of T. Put brackets around the character if an actual comparison was not performed. You may not need all space in the table.

solution:

a) Let the failure array be F, then

F[0] = 0
F[1] = 0
F[2] = 1
F[3] = 2
F[4] = 3
F[5] = 0

b)

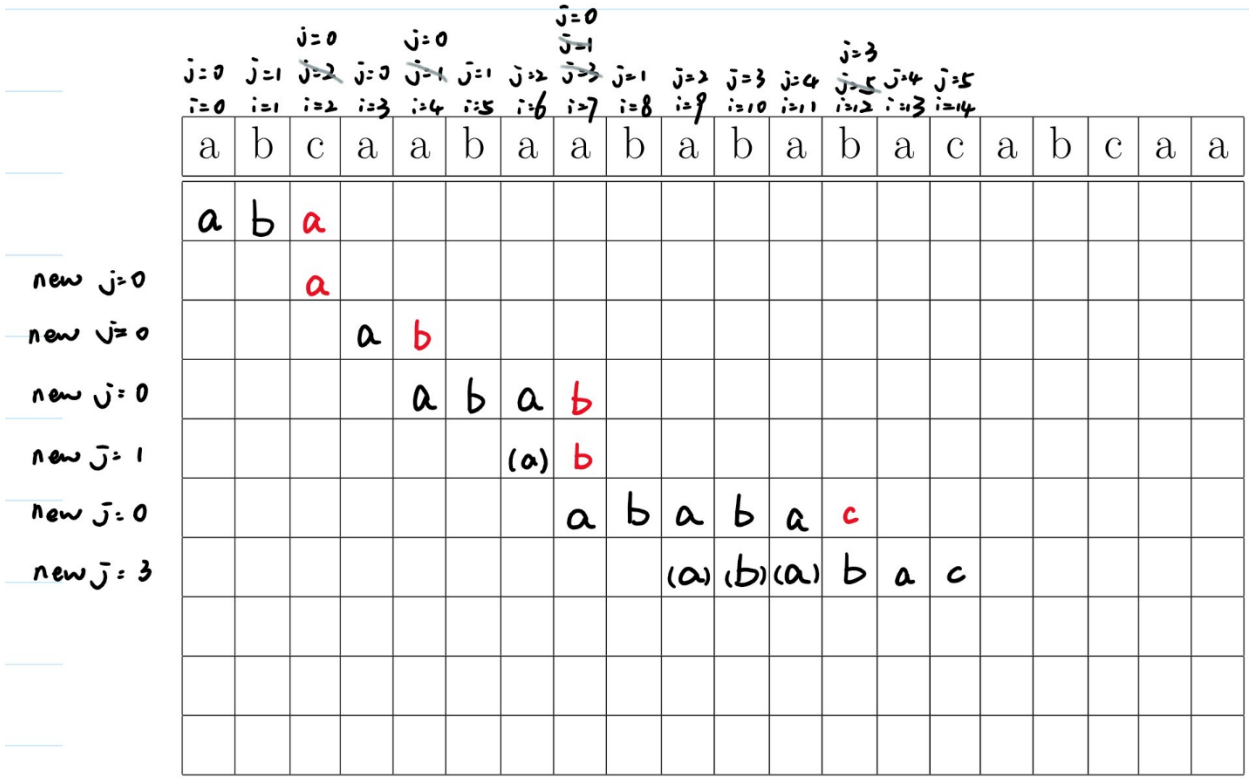

Table 1: Table for KMP problem.