**WEEK 4: Graded Quiz – Suffix Array Construction**

**100% on 1st attempt**

AACGATAGCGGTAGA$

1. For string S = AACGATAGCGGTAGA$,

Since the array is sorted, order should start with the $ symbol – which is at index 15.

The next smallest index would be the cyclic shift of A$... – which is at index 14.

Answer: **[15, 0,1,4,6,12,14,2,8,3,7,9,10,13,5,11 ]**

1. For string S = AACGATAGCGGTAGA$,

After ComputeCharClasses, this computes the single cyclic shift.

Order array: [15,14,0,1,12,6,4,2,8,13,3,7,9,10,11,5]

$ - 15

A – 14, A – 0, A – 1, A – 12, A – 6, A – 4

C – 2. C – 8

G – 13, G – 3, G – 7, G – 9, G – 10,

T – 11, T – 5.

Class Array:

Class [15] = 0

Class [14] = class [ 0] =class [1] =class [12] = class [6] = class [4] = 1

Answer: **[1, 1, … ]**

1. For string S = AACGATAGCGGTAGA$,

Order of CS of length 2 ordered by 2nd character in ascending order:

Ci’ = Ci (concatenate with) Ci+L

C\_15 + C\_17 = C15 + C1 = $A

C\_14 + C\_16 = C\_14 + C0 = A$ (2nd possible smallest is possible)

In ascending order,

**$A,A$,AA,AC,AG,AG,AT,CG,CG,GA,GA,GC,GG,GT,TA,TA**

1. For string S = AACGATAGCGGTAGA$,

Guessed: 15,14,0,1,6,12,4,2,8,3,13,7,9,10,5,11

Guessed:   
[2,3,6,7,5,11,4,8,6,9,10,11,4,7,1,0]

1. [2,3,6,7,5,11,4,8,6,9,10,11,4,7,1,0]
2. [2,3,6,7,5,11,4,8,6,9,10,11,4,7,1,0]
3. [15,14,0,1,12,6,4,2,8,13,3,7,9,10,11,5]