COM S 567 : Bioinformatics I (Fundamentals of Genome Informatics)

Fall Semester, 2016
Assignment #5

Due Date : 5pm, Thursday, Oct 20th

Homework Guidelines

- Please write your name and ISU ID at the beginning of the homework.

- Please submit your solutions through Blackboard in *.pdf* or *.doc(x)* format.

- Please do NOT submit a photocopy of your handwritten soultion. Though, graphs and figures can be hand-drawn and scanned.

Problem 1

Modify your code from assignment #4 to implement branch-and-bound strategy (the ones shown in class) for the motif search and median string problems. Please submit your solutions using the provided template ("motifSearch" and "medianString" should contain the modified code from the previous assignment). It may be helpful to implement a "bypass" method in accomplishing this task.

Problem 2

Problem 4.17, page 123 from Textbook (Introduction to Bioinformatics Algorithms; Jones, N.C. and Pevzner, P)

Problem 3

Problem 4.8, page 119 from Textbook (Introduction to Bioinformatics Algorithms; Jones, N.C. and Pevzner, P)

Problem 4

Problem 4.9, page 121 from Textbook (Introduction to Bioinformatics Algorithms; Jones, N.C. and Pevzner, P)