BI-GY 7453: Prof. Manpreet S Katari
May 3, 2022

ASSIGNMENT 5 (Final Assignment) : Due Date : 10-May-2022

Read it before attempting :

1) Provide clear,lucid explanation for each question

2) Wherever possible used a small code snippet (with output) to better explain your answer

3) All question are form class lectures and slides,So go through them before attempting any questions

Question 1. What does it mean when an algorithm is P or NP complete?

Question 2. What is the difference between Big O, Big Omega, and Big Theta functions?

Question 3. Explain the difference between an adjacency list and an adjacency matrix. How do they store networks and in what scenarios is one preferred over the other?

Question 4. Give a summary of BFS and DFS. Make sure to explain the difference between them. What is the time complexity of both? Explain why this is the case.

Question 5. In Lecture 7 we discussed different algorithms for string matching. Describe one and give an example of how it can used in genomics research today?

Question 6. In Lectures 10 and 11 we discussed different algorithms for sorting. Describe one and give an example of how it can used in genomics research today?