Bioinformatics Report

Lab Assignment 2

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Que. Find the Longest Common Subsequence in given two strings using Python and R programming. Comment on the advantages and disadvantages you faced while coding in both languages.

Soln:
  1) **R:**
       a) **Advantages:**
            i)   Very fast execution for larger inputs
            ii) Library support for LCS is present
            iii) Good documentation allows for faster function lookups
       b) **Disadvantages:**
            i)   IDE is not as user-friendly
  2) **Python :**
       a) **Advantages:**
            i)   Lesser time needed for smaller inputs
            ii) Many IDEs available for coding
            iii) Vast community of developers. Therefore easier to find code inspiration on forums
       b) **Disadvantages:**
            i)   No library support for LCS
            ii) Recursive method fails for large inputs (for eg. input 2)
            iii) Time taken for larger inputs is almost 30x time taken by R

Comparison between the time is taken in both the methods:

Sr. No	String 1 length	String 2 length	Time taken	
			R	**Python**
1	8	8	0.003000021 secs	0.000050 secs
2	997	817	0.01400304 secs	0.3665 secs