

Bioinformatics Group Prof. Dr. Rolf Backofen Florian Eggenhofer Michael Uhl Rick Gelhausen

Entwurf, Analyse und Umsetzung von Algorithmen



Exercise sheet 14

Exercise 1 (10 points)

Implement the function $compute_ed_via_table$ inside the source code file $edit_distance.py$ from the website. This function should calculate the edit distance between two strings x and y in time and space $O(|x| \cdot |y|)$, using the dynamic programming table approach from the lecture.

Exercise 2 (10 points) !BONUS EXERCISE!

In addition to computing the optimal alignment cost in Exercise 1, we would like to output all the optimal alignments of the two strings x and y based on the computed dynamic programming table. Use the provided source code file $output_optimal_alignments.py$ from the website and implement the missing functionality. Note that you can reuse your code from the first exercise here, since you already computed the table.