

Exercises – Algorithms for Genome Rearrangement

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<http://wiki.techfak.uni-bielefeld.de/gi/Teaching/2014summer/gr>

Exercise List 6 — 19.05.2014

Hand in exercises by: 26.05.2014

Exercise 1

(4 Points)

Consider the genomes $A = (1 -2 3)(4 7 -8 9 -10 11 6 5 12)$ and $Id = (1 2 3)(4 5 6 7 8 9 10 11 12)$.

- Draw the elementary interval graph, the intrachromosomal components, the forest F_A and find the translocation distance between A and Id .
- Apply bad translocations that destroy the all the intrachromosomal components, redrawing the elementary interval graph, the components and the forest F_A , also recalculating the translocation distance.
- After all the intrachromosomal components are destroyed, apply one proper translocation, increasing the number of cycles by one.

Exercise 2

(4 Points)

Consider the genomes $A = (1 2 3)(4 -5 6 -7 8)$ and $Id = (1 2 3)(4 5 6 7 8)$. Repeat the items (a), (b) and (c) from exercise 1.