Exercises – Algorithms for Genome Research

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Exercise 1

Read the following paper and answer the questions: Martin, J. A., & Wang, Z. (2011). **Next-generation transcriptome assembly**. Nat Rev Genet, 12(10), 671, 682

- (a) What are the main differences between genome and transcriptome assembly?
- (b) What are the common strategies used for transcriptome assembly? What are the advantages and disadvantages of each one?

Exercise 2

Construct the splicing graph for the following mRNA reads. How many splice variants can you reconstruct?

AATAGGATTCAGG, CCTAGTTAGTTCA, CTCACCTAGTTCA, GTTAGTTCAGGAC, CTAGCCGATCGAAT, AGGAGGAGGAT, AGGATTCA, CTAGCGAATAG