

Exon-chaining

INFO-F-438 — Algorithms in Computational Biology. Assignment 2.

Algorithm

The algorithm was written in Python language. Please see attached the algorithm code *exonChaining.py*. Explanations are in the form of comment lines.

Result outputs

Assignment 2 example: intervals (1; 5); (3; 9); (4; 10); (7; 13); (10; 17); (11; 16); (14; 19); (17; 19) with respective weights 4; 3; 3; 6; 10; 2; 1; 8:

Output:

- Maximum score: 22
- Path in the graph (intervals used):
(1; 5; 4), (10; 17; 10); (17; 19; 8)
(in the form *left coordinate, right coordinate, weight*).

Textbook example: intervals (1; 5); (2; 3); (4; 8); (6; 12); (7; 17); (9; 10); (11; 15); (13; 14); (16; 18) with respective weights 5; 3; 6; 10; 12; 1; 7; 0; 4:

Output:

- Maximum score: 21
- Path in the graph (intervals used):
(2; 3; 3); (4; 8; 6); (9; 10; 1); (11; 15; 7); (16; 18; 4)
(in the form *left coordinate, right coordinate, weight*).