BIN506 Assignment 1

2024-2025 Spring

Due Date and Time: 11 March 23.59

Late Submission Policy: After the due time, 10 points of deduction will be applied for each extra hour. No submission will be allowed after 12 March 09.40.

Uploading your assignment as a single PDF file is mandatory.

Question 1:

- Find and save sequences for NM_000558.3 and AF230076.1 from NCBI.
- Select one of the dot-matrix analysis programs provided below and perform analysis for the given sequences.
    - http://myhits.isb-sib.ch/cgi-bin/dotlet
    - https://www.bioinformatics.nl/emboss-explorer/ (dotmatcher)
- Change the tool parameters such as the threshold and window size to get different results (not all tools might have the same parameters – change whatever parameter the tool you use has). Explain what each parameter does.
- Try to get the best (the most informative) image. Shortly explain why you think it is the best result. Submit the image(s) you retrieve.

Question 2:

Imagine you only have 4 different letters and you need to form words that represent 20 different meanings. How many letters should each word have so that you can create enough unique words for all 20 meanings?