Fall 2016

1. Types of Alignment: Presentations & Demos Assignment

Sarah O'Leary-Driscoll
Illinois Mathematics and Science Academy, soleary@imsa.edu

Types of Alignment: Presentations & Demos Assignment

Pairwise Alignment: DNA

Pairwise Alignment: Protein

Multiple Sequence Alignment: DNA

Multiple Sequence Alignment: Protein

Part 1:

For your given topic, address the following:

- What are some of the reasons to do this type of alignment?
- In general, how does the alignment work?
- What are some of the specific algorithms and scoring procedures used for the alignment? Pick two or three of the most common to explain.
- What variables can you change with the inputs of your alignment? Why might you change them?
- How are the results of the alignment/outputs interpreted? Are there thresholds in terms of scores needed to draw certain conclusions?
- What are the best or most used programs used to perform the alignment?

Part 2:

Construct a series of instructions, with screen shot diagrams of how to perform your alignment.

Then, be prepared to walk through an interactive demo of your alignment to demonstrate how it works. Your classmates will follow along with you so that they can use the alignment themselves in the future.

As you work through the background information and constructing directions for these programs, please be sure to cite your sources and include a full bibliography.