

Result

We implemented the center star method using C++. We observed the output by varying the number of sequences and the size of input data sets.

For calculating the matrix for this method, we used two different ways to calculate SP score. In first case, we aligned all the input sequences and then made the matrix. But, in later case, we made the scoring matrix without aligning the sequences. The first case requires more time than the second case. This is because, a considerable amount of time is required to align the sequences.

| Sequences | Data Set | Running Time (sec) |
|------------------|-----------------|---------------------------|
| 8 | 2400 x 8 | 236.17 |
| 16 | 2400 x 16 | 848.19 |

Table 1: Calculating SP score with aligned sequences

| Sequences | Data Set | Running Time (sec) |
|------------------|-----------------|---------------------------|
| 8 | 2400 x 8 | 63 |
| 16 | 2400 x 16 | 113 |
| 16 | 5000 x 16 | 431.45 |
| 16 | 9500 x 16 | 1623.22 |
| 16 | 15000 x 16 | 3531.41 |
| 24 | 15000 x 24 | 5249.50 |

Table 2: Calculating SP score without aligned sequences