|  |  |  |
| --- | --- | --- |
| Sequence Length | Time Taken (hh:mm:ss) | Memory used (GB) |
| 1,000 | 0:0:1 | 0.004 |
| 10,000 | 0:1:25 | 0.320 |
| 25,000 | 0:8:39 | 2.027 |
| 40,000 | 0:22:23 | 5.209 |
| 45,000 | 0:28:2 | 6.580 |

Approaching sequence length 50,000 , the CISE servers would produce memory errors and the program would be terminated before completion. These values show that around a sequence length of 100,000 would most likely take hours to find optimal alignments and would take up more than 16 GB of memory which would produce memory errors in most OS. The memory errors displayed by the CISE servers is most likely a product of an inefficient calculation.