

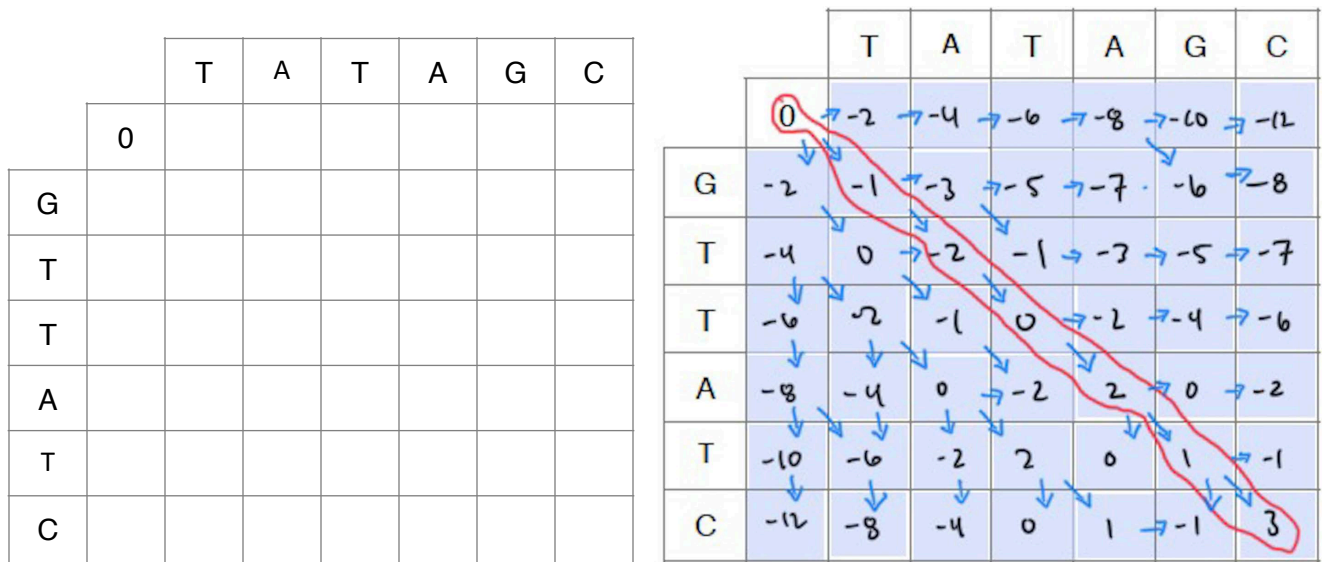
## Homework Week2

### Sequence Alignment Fundamentals

<http://thegrantlab.org>

Dr. Barry Grant

This unit's homework consists of both (1) an online [knowledge assessment quiz](#) (see online) and (2) a Needleman-Wunsch dynamic programming assessment exercise (this document). Both components contribute 50% to this unit's grade. For the later we have two sample sequences, and we'd like to use the Needleman-Wunsch algorithm discussed in class to align them.



Step	Scoring Rubric/Assessment Criteria	Points	
1	Setup labeled alignment matrix	1	
2	Include initial column and row for GAPs	1	
3	All alignment matrix elements filled in	1	
4	Evidence for correct use of scoring scheme	1	
5	Direction arrows drawn between all cells	1	
6	Evidence of multiple arrows to a given cell if appropriate	1	D
7	Correct optimal score position in matrix used	1	C
8	Correct optimal score obtained for given scoring scheme	1	B
9	Traceback path(s) clearly highlighted	1	A
10	Correct alignment(s) yielding optimal score listed	1	A+

(10 Total points)