Dynamic Programming
for
Pairwise Sequence Alignment

Consider the dynamic programming algorithm for the string alignment problem where a match is worth +1, a mismatch -1, and a gap -2.

1) Use the dynamic programming to find **all** optimal alignments between the two DNA sequences: TCCA and TCGCA.

Show the matrix with ALL the values and arrows for tracing back.

	-	T	C	G	C	A
-	0					
T						
C						
C						
A						

Show all the alignment(s) that produce the optimal value.

2) Use the dynamic programming to find **all** optimal alignments between the two DNA sequences: ATCAAC and TAGA.

Show the matrix with ALL the values and arrows for tracing back.

	-	T	A	G	A
-	0				
A					
T					
C					
A					
A					
C					

Show all the alignment(s) that produce the optimal value.