

match/mismatch: $s(a_i, b_j) = \begin{cases} 1 & \text{if } a_i = b_j \\ -1 & \text{if } a_i \neq b_j \end{cases}$

indel: $-\delta = -2$

initialization: $M_{i,0} = 0 \quad M_{0,j} = 0$

recursion:
$$M_{i,j} = \max \begin{cases} M_{i-1,j-1} + s(a_i, b_j) \\ M_{i-1,j} - \delta \\ M_{i,j-1} - \delta \\ 0 \end{cases}$$

		G	T	G	T	A	T	G	A	G	T	G	C	G	A	C	T	C	A
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0
C	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0
G	0	1	0	1	0	0	0	1	0	1	0	1	0	2	0	0	0	0	0
C	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	1	0
T	0	0	1	0	1	0	1	0	0	0	1	0	0	1	0	0	2	1	0
A	0	0	0	0	0	2	0	0	1	0	0	0	0	0	2	0	0	1	2
C	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3	1	1	0
T	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	1	4	2	0
A	0	0	0	0	0	2	0	0	1	0	0	0	0	0	1	0	2	3	3
T	0	0	1	0	1	0	3	1	0	0	1	0	0	0	0	0	1	1	2
A	0	0	0	0	0	2	1	2	2	0	0	0	0	0	1	0	0	0	2
G	0	1	0	1	0	0	1	2	1	3	1	1	0	1	0	0	0	0	0
A	0	0	0	0	0	1	0	0	3	1	2	0	0	0	2	0	0	0	1
C	0	0	0	0	0	0	0	0	1	2	0	1	1	0	0	1	0	1	0
A	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	2
C	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	1	0
G	0	1	0	1	0	0	0	1	0	1	0	1	0	2	0	0	1	0	0

optimal alignment (score 4): GCGACT
 GCTACT