

Gotoh (Local) Unit Tests

Hint: Many test values are taken from project Algorithms
for Bioinformatics of Alexander Mattheis or the lectures.

Test 1

Input

Sequence A: CCGA
Sequence B: CG

Gap Opening: -3 $g(k) = -3 - k \cdot 1$
Enlargement: -1
Match: 1
Mismatch: -1

Output

| | | C | C | G | A |
|---|---|-----------|-----------|-----------|-----------|
| | - | $-\infty$ | $-\infty$ | $-\infty$ | $-\infty$ |
| C | - | -4 | -4 | -4 | -4 |
| G | - | -3 | -3 | -4 | -4 |

| | | C | C | G | A |
|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 1 | 1 | 0 | 0 |
| G | 0 | 0 | 0 | 2 | 0 |

| | | C | C | G | A |
|---|-----------|----|----|----|----|
| | - | - | - | - | - |
| C | $-\infty$ | -4 | -3 | -3 | -4 |
| G | $-\infty$ | -4 | -4 | -4 | -2 |

Seq1 CG
 **
Seq2 CG

Test 2-4: Simulation of Smith-Waterman Tests by setting gap opening to 0.