Dynamic Programming Example

***Note: For all alignments, we will use a linear gap penalty of 4 points, a match score of +5 points, and a mismatch score of -1 point.***

Complete the dynamic programming matrix below to find the optimal alignment score and optimal alignment for THEM and TEA.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | T | E | A |
|  | 0 | -4 | -8 | -12 |
| T | -4 |  |  |  |
| H | -8 |  |  |  |
| E | -12 |  |  |  |
| M | -16 |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Si,j = max{ |  |  |  |  |
|  |  |  |  |
|  |  |  |  |