Table from lecture Slides:

|  |  | $Y_{1}$ | ... | $Y_{j-1}$ | $Y_{j}$ | ... | $Y_{n}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | d | ... | $(\mathrm{j}-1)^{*} \mathrm{~d}$ | $\mathrm{j}^{*} \mathrm{~d}$ | ... | n*d |
| $\mathrm{X}_{1}$ | d |  |  |  |  |  |  |
| ... | ... |  |  |  |  |  |  |
| $\mathrm{X}_{\mathrm{i}-1}$ | (i-1)*d |  |  | $A(i-1, j-1)$ | $A(i-1, j)$ |  |  |
| X | i*d |  |  | A(i,j-1) | $A(1, j)$ |  |  |
| ... | ... |  |  |  |  |  |  |
| $\mathrm{X}_{\mathrm{m}}$ | m*d |  |  |  |  |  | A(m,n) |

Table from Paper:

| $\mathrm{X}_{1}$ | $\mathrm{Y}_{1}$ |  |  | $\mathrm{Y}_{\mathrm{j}-1}$ | $\mathrm{Y}_{\mathrm{j}}$ | ... | $\mathrm{Y}_{\mathrm{n}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | -d | $\ldots$ | -(j-1)d | -jd | $\ldots$ | -nd |
|  | -d |  |  |  |  |  |  |
| $\cdots$ | $\ldots$ |  |  |  |  |  |  |
| $\mathrm{X}_{\mathrm{i}-1}$ | -(i-1)d |  |  | $\mathrm{A}(\mathrm{i}-1, \mathrm{j}-1)$ | $\underset{4}{\mathrm{~A}(\mathrm{i}-1, \mathrm{j})}$ |  |  |
| $\mathrm{X}_{\mathrm{i}}$ | -id |  |  | $A(i, j-1)<$ | $A(i, j)$ |  |  |
| $\stackrel{.}{ } \mathrm{X}_{\mathrm{m}}$ | $\ldots$ |  |  |  |  |  |  |
|  | -md |  |  |  |  |  | A(m, n) |

Fig 3. Computing optimal alignment of two sequences using Needleman-Wunsch algorithm

