

BIOINFORMATICS

How do we compare biological sequences?

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Exercises

Try to align globally/locally the following sequences:

- ACCTG and TGATG;
- ACTCA and CACTC.

$$\text{score matrix} = \begin{bmatrix} 1 & -2 & -2 & -2 & -1 \\ -2 & 1 & -2 & -2 & -1 \\ -2 & -2 & 1 & -2 & -1 \\ -2 & -2 & -2 & 1 & -1 \\ -1 & -1 & -1 & -1 & - \end{bmatrix}$$

Exercises

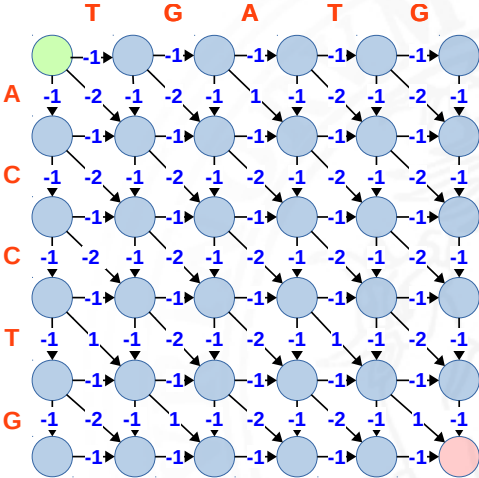
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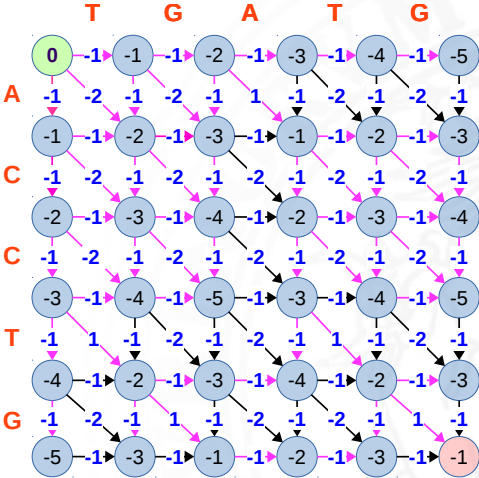
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Exercises

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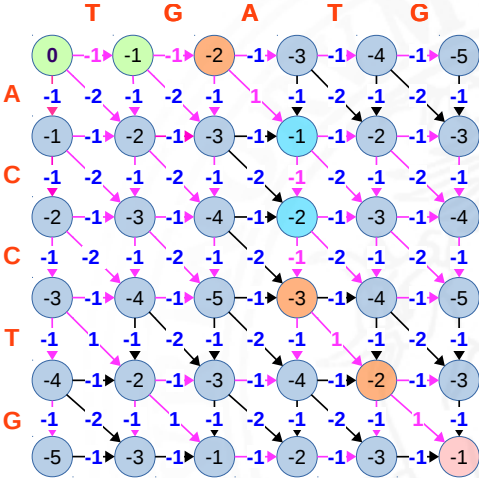
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TG A - -TG
 - - ACC TG

Exercises

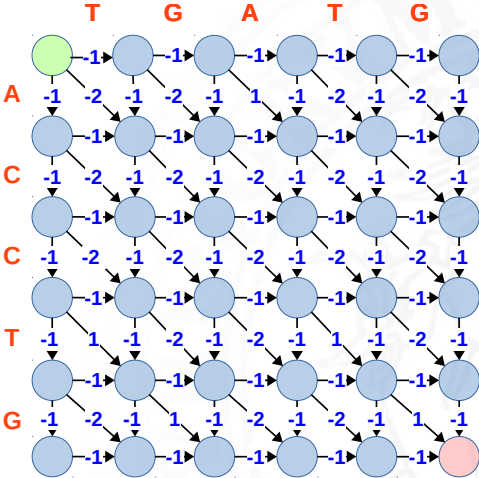
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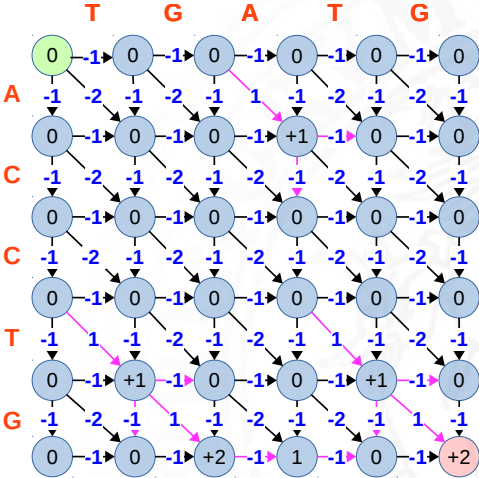
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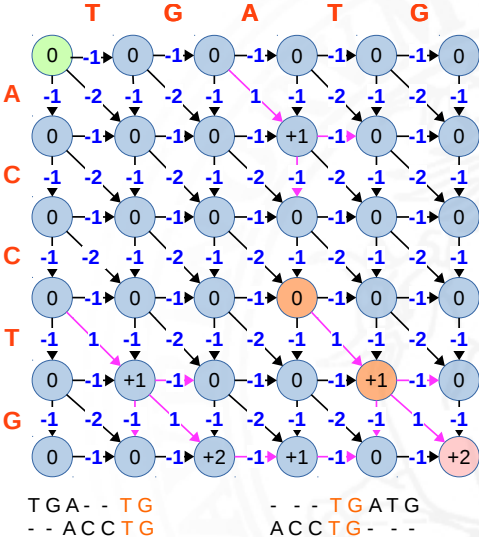
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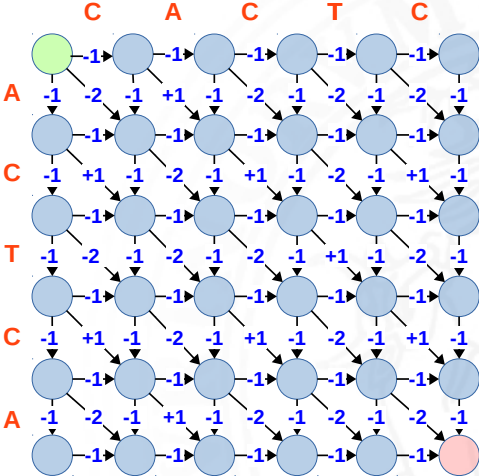
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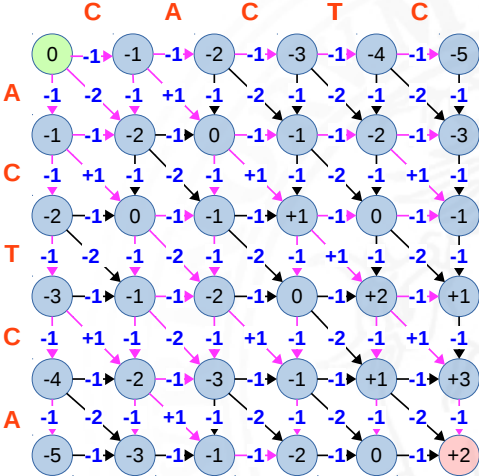
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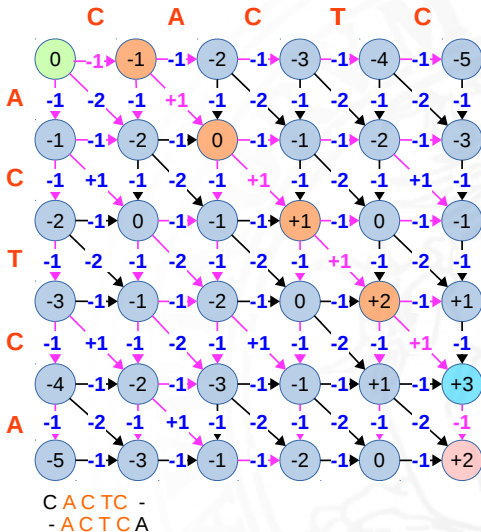
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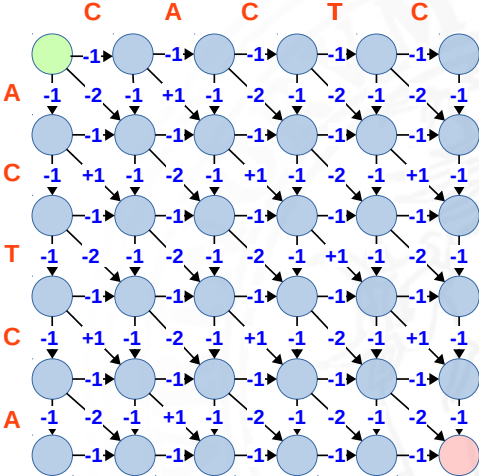
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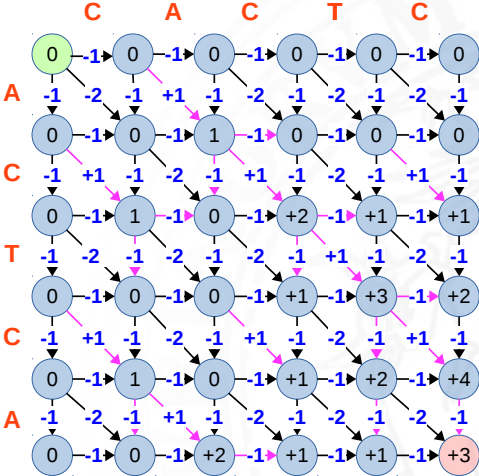
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Exercises

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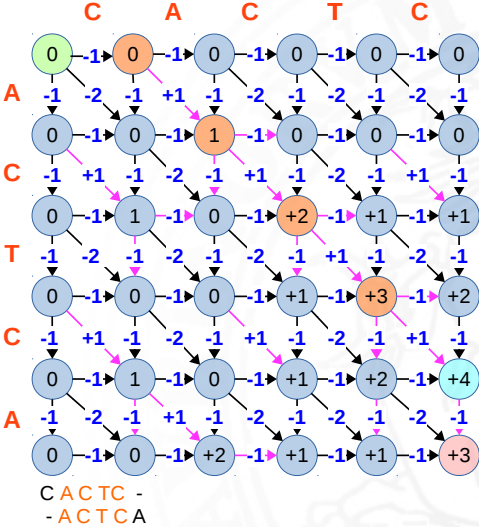
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Exercises

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Exercises

Try to align globally the following sequences using the Divide and Conquer approach:

- ACCTG and TGATG;
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Exercises

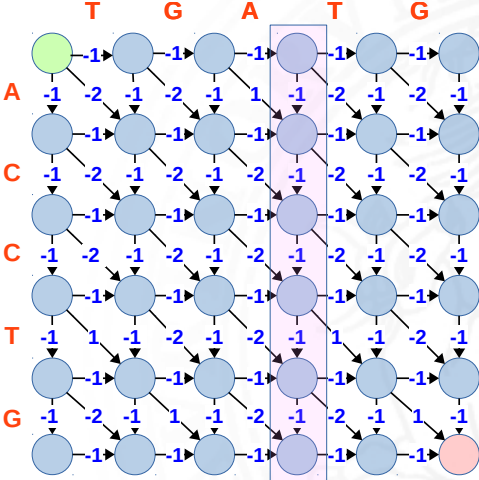
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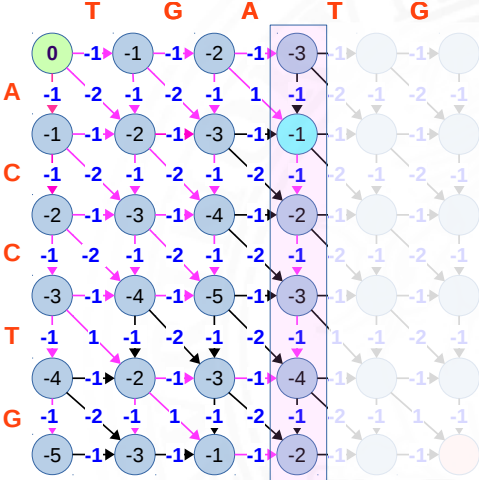
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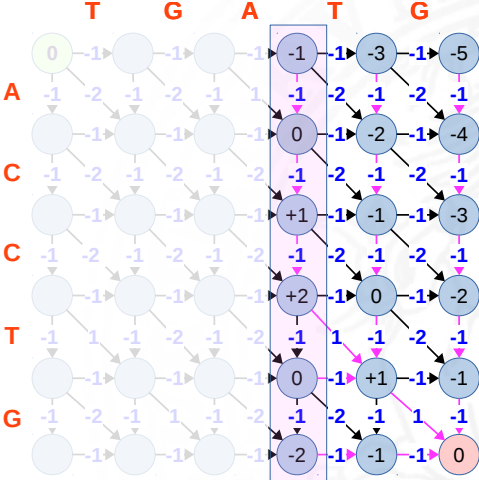
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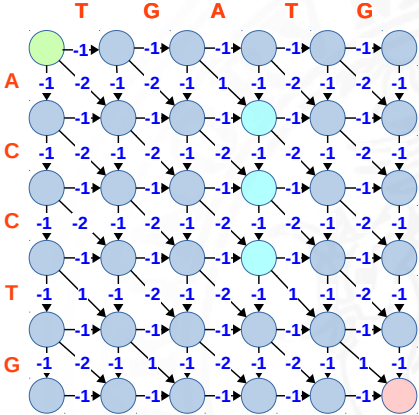
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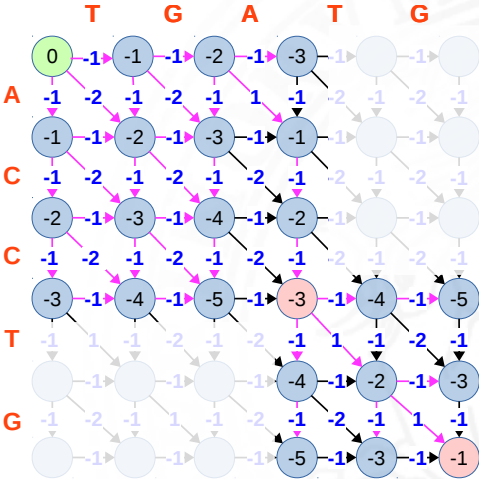


$$\begin{array}{r}
 -3 \ -1 \ -2 \ -3 \ -4 \ -2 \\
 + \\
 -1 \ 0 \ +1 \ +2 \ 0 \ -2 \\
 = \\
 -4 \ -1 \ -1 \ -1 \ -4 \ -4
 \end{array}$$

Exercises

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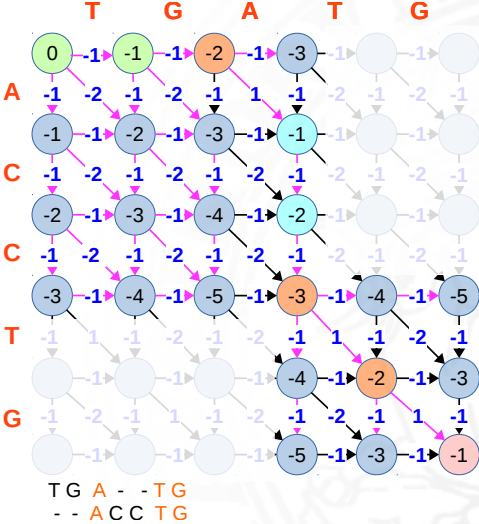
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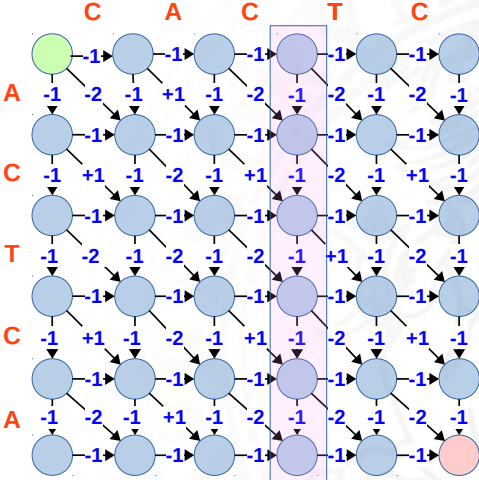
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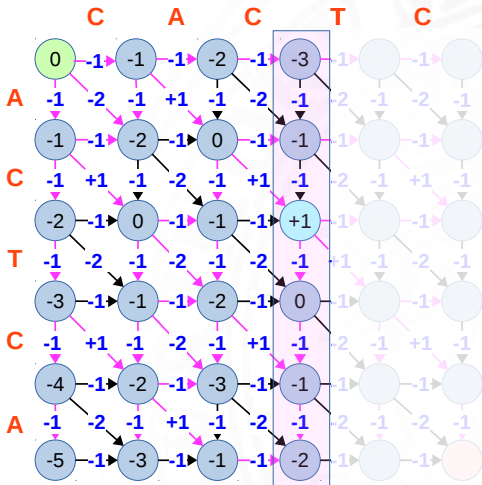
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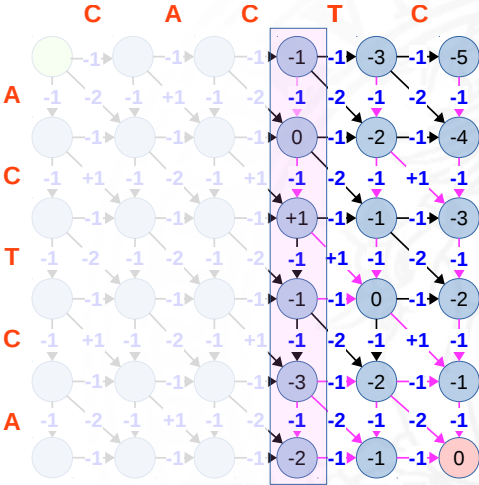
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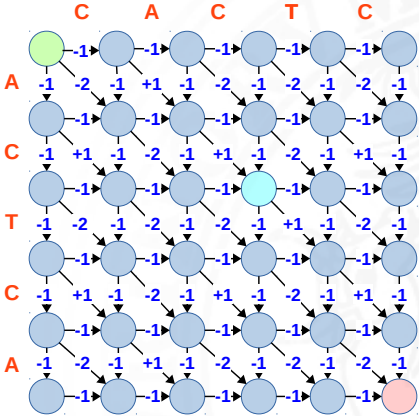
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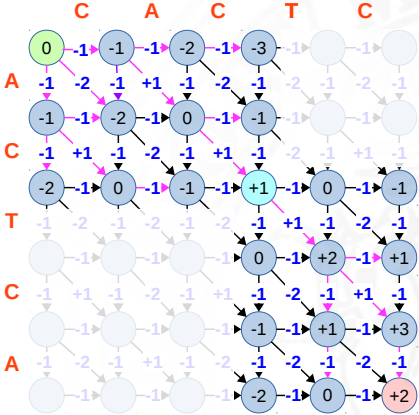


$$\begin{array}{r}
 -3 \ -1 \ +1 \ 0 \ -1 \ -2 \\
 + \\
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 \end{array}$$

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