

• Global alignment

- Task:

- Align PRETERIT and VEITGEIST

- Use

- Match = 1, Mismatch = 0, Gap = -1 ($d = 1$)

$$F(i, j) = \max \begin{cases} F(i-1, j-1) + s(x_i, y_j) \\ F(i-1, j) - d \\ F(i, j-1) - d \end{cases}$$

		P	R	E	T	E	R	I	T
	0	-1	-2	-3	-4	-5	-6	-7	-8
V	-1	0	-1	-2	-3	-4	-5	-6	-7
E	-2	-1	0	0	-1	-2	-3	-4	-5
I	-3	-2	-1	0	0	-1	-2	-2	-3
T	-4	-3	-2	-1	1	0	-1	-2	-1
G	-5	-4	-3	-2	0	1	0	-1	-2
E	-6	-5	-4	-2	-2	1	1	0	-1
I	-7	-6	-5	-3	-2	0	1	2	1
S	-8	-7	-6	-4	-3	-1	0	1	2
T	-9	-8	-7	-5	-3	-2	-1	0	2

V E I T G E I S T
P R E T - E R I T

V E I T G E I S T
P R E T E R I - T

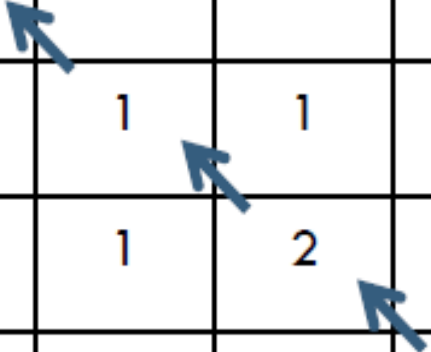
• Local alignment

- Task:

- Align AAG and TTAAG
- Use
 - Match = 1, Mismatch = 0, Gap = -1 ($d = 1$)

$$F(i, j) = \max \begin{cases} F(i-1, j-1) + s(x_i, y_j) \\ F(i-1, j) - d \\ F(i, j-1) - d \\ 0 \end{cases}$$

		A	A	G	A
	0	0	0	0	0
T	0	0	0	0	0
T	0	0	0	0	0
A	0	1	1	0	1
A	0	1	2	1	1
G	0	0	1	3	2



A A G
A A G