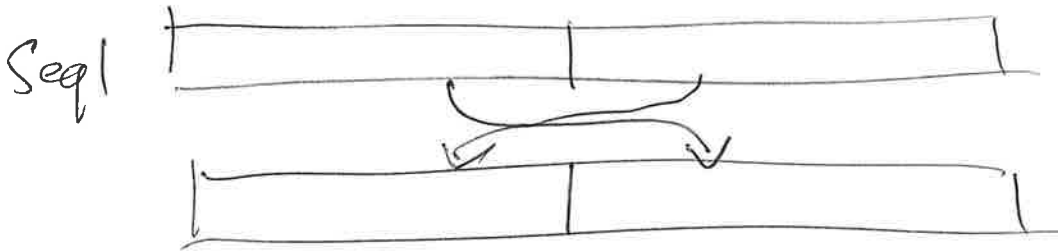
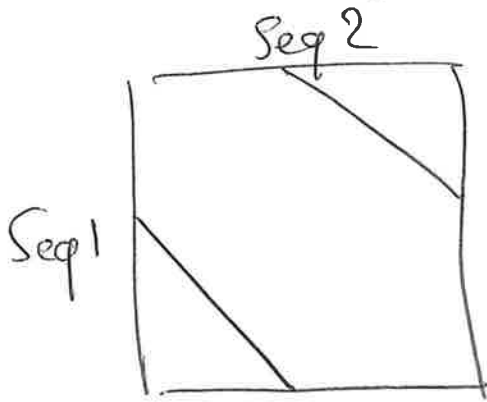


①

Sequence comparison



I) Sequence alignment

Seq 1 A I C G G A I T N

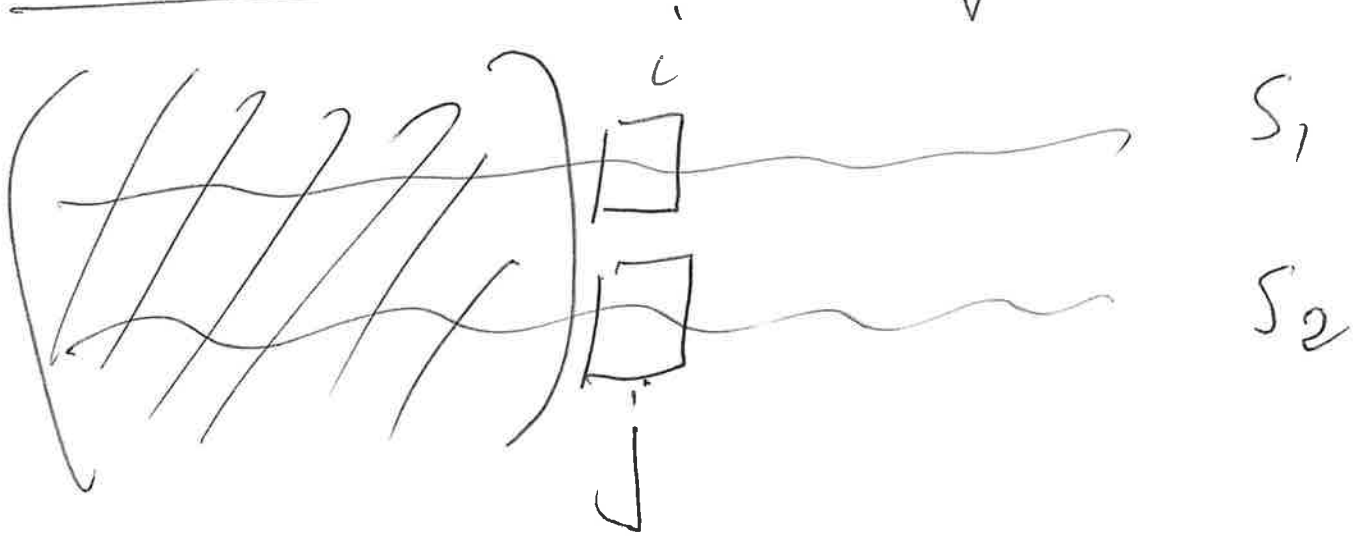
Seq 2 | - | | | - | | R letters that align

 A C C A G T T M

$$\sum_{k=1}^{\min(N, M)} \binom{N}{k} \times \binom{M}{k}$$

(2)

II) A reasonable algorithm



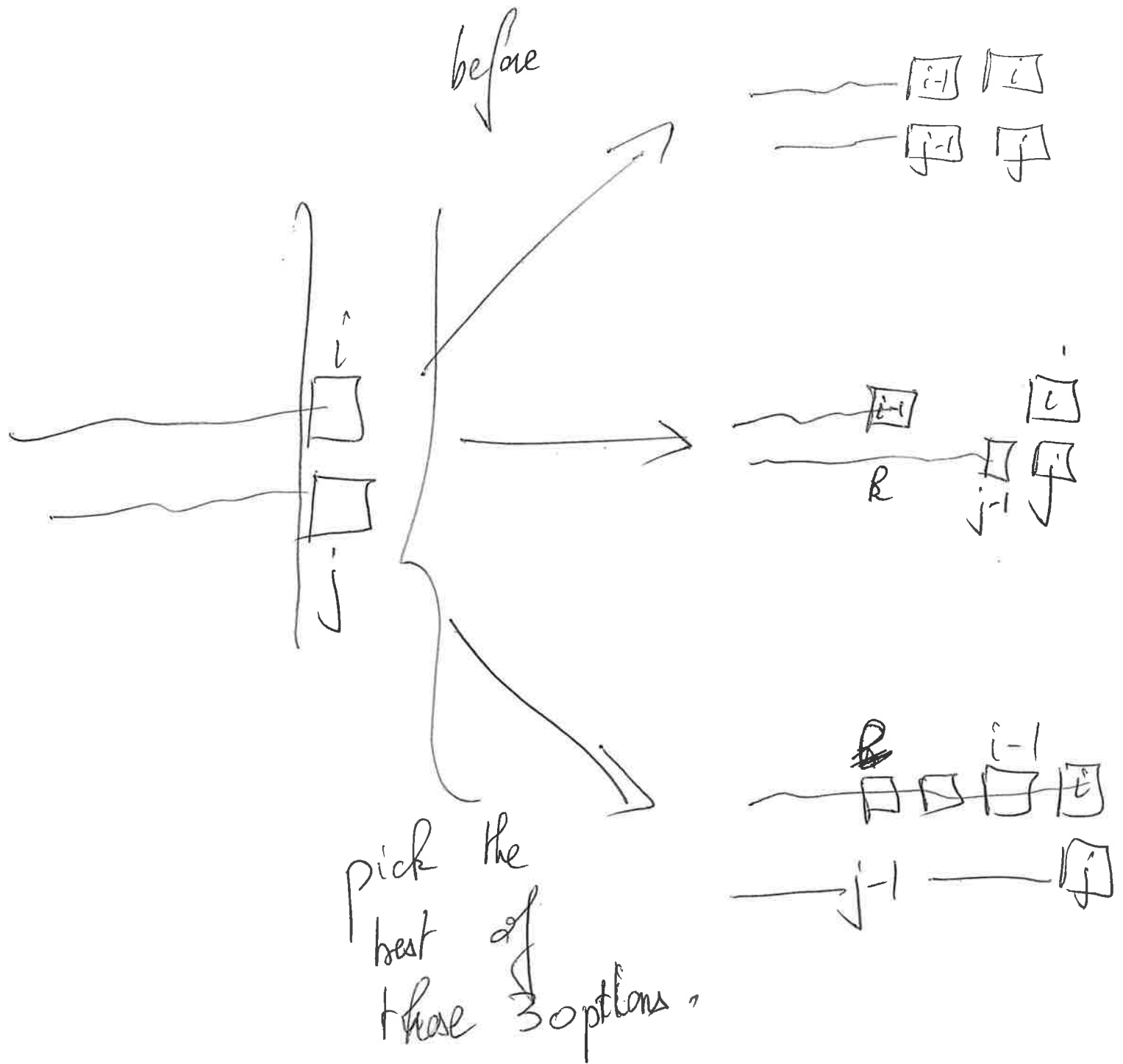
What ever happens at the level of i and j depends on what happened between $S_1(1, \dots, i-1)$ and $S_2(1, \dots, j-1)$

The trick: The optimal solution can be efficiently constructed from the optimal solutions of its smaller problems.

Dynamic Programming.

③

This only works if the individual scores are additive.



④

