Assignment 2

2. Counting

Formula for calculating the number of optimal global alignments if both strings with length n and m are defined over the same one-element alphabet:

🡪 binomial coefficient:

n – m ≙ number of possible gaps for string m;

🡪 calculates all possible combinations of n and m

Constraints: n ≥ m

no gaps at the end or beginning of the string n (is already excluded by   
 just calculating optimal alignments and not all possible ones)

Example: n = 5 = AAAAA; m = 2 = aa; only optimal alignments

AAAAA

1. a a \_ \_ \_
2. \_ a a \_ \_
3. \_ \_ a a \_
4. \_ \_ \_ a a
5. a \_ a \_ \_
6. a \_ \_ a \_
7. a \_ \_ \_ a
8. \_ a \_ a \_
9. \_ a \_ \_ a
10. \_ \_ a \_ a