Bioinformatics I

WS 15/16

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1	2	3	4	$\sum$ (7)

Assignment 5
(Handed in 16. November 2015)

Theoretical Assignment - *Comparison with at most l mismatches*

Assume two sequences of length t with l mismatches. In the worst case, all mismatches are distributed uniformly. Than both sequences will share $l + 1$ tuples of length $\lfloor \frac{t}{l+1} \rfloor$.

So both sequences share $l + 1$ k-tuples of length $k = \lfloor \frac{t}{l+1} \rfloor$ and for each $k \leq \lfloor \frac{t}{l+1} \rfloor$ they share $l + 1 * \lfloor \frac{\lfloor \frac{t}{l+1} \rfloor}{k} \rfloor$ k-tuples.

Theoretical Assignment - *Linear programming by hand*

Theoretical Assignment - *Bonus: Carillo-Lipman bound*