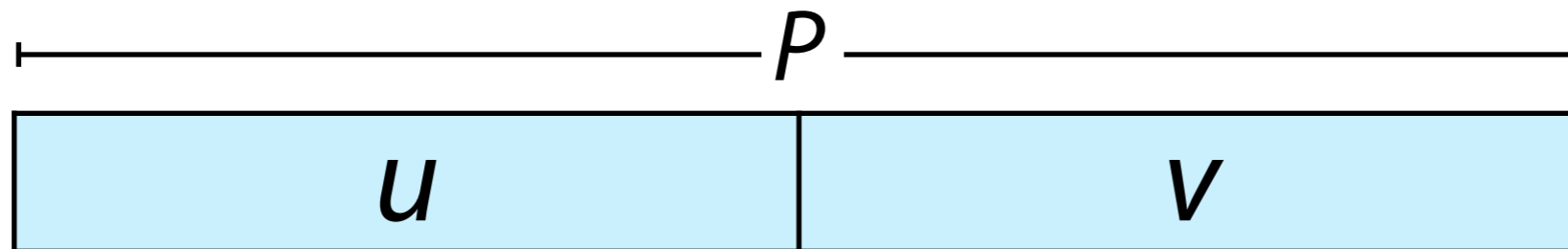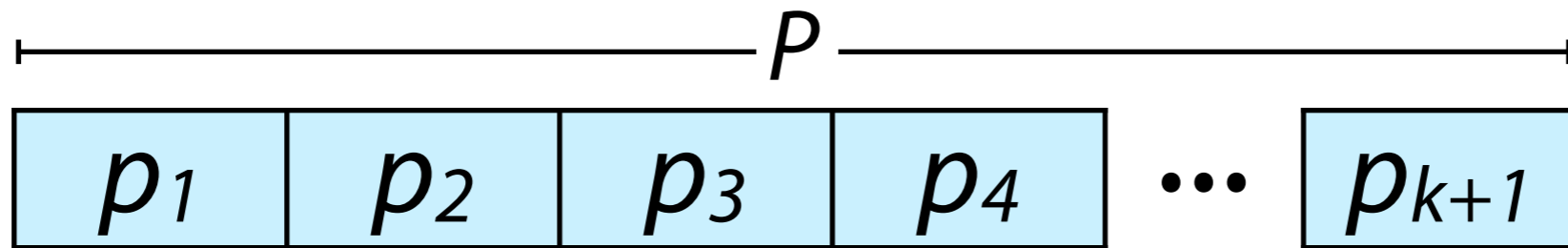# Approximate matching

Wanted: way to apply exact matching algorithms to approximate matching problems

Approximate matching
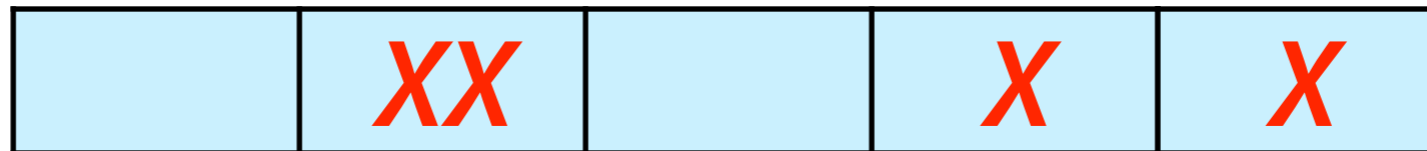

If P occurrs in T with 1 edit, then u or v appears with no edits

Approximate matching

If P occurrs in T with up to k edits, at least one of $p_1, p_2, ..., p_{k+1}$ must appear with 0 edits
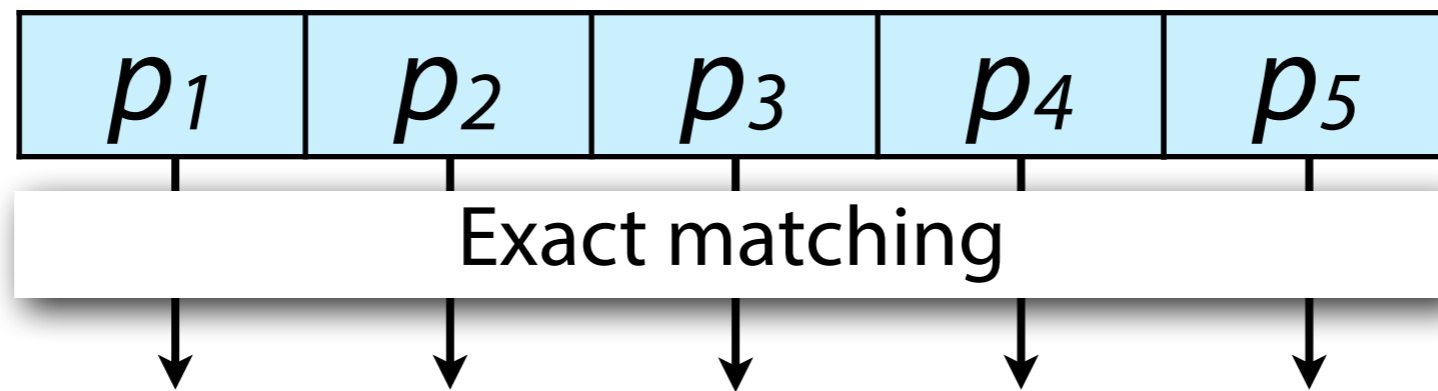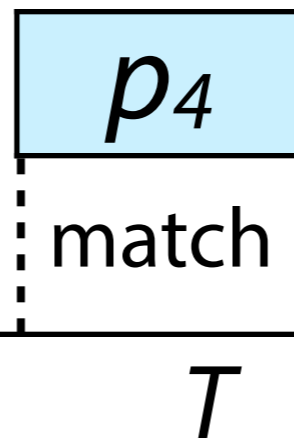
Approximate matching

Pigeonhole principle

Pigeonhole principle

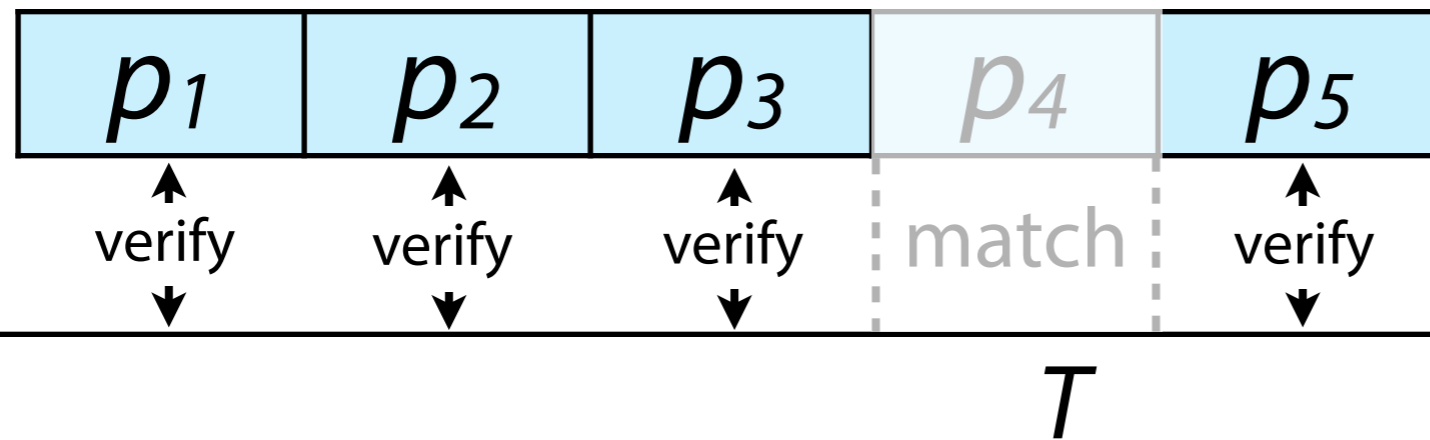p_1 | p_2 | p_3 | p_4 | p_5

Exact matching

T

Pigeonhole principle

Pigeonhole principle

Pigeonhole principle

$\updownarrow$

Offline algorithms

Online algorithms

Index-assisted

Naive exact matching

k-mer, subseq index

Suffix index

Boyer-Moore