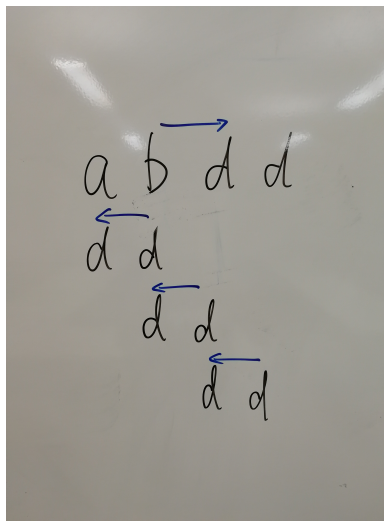


Week 09

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4. The idea behind the pattern search is illustrated in the following diagram, where **pattern** is traversed from right to left, and **text** is traversed from left to right.



The implementation is based on the naive search. A possible optimisation is similar to the Rabin-Karp algorithm: For instance, if **text** has many repetitive characters, we could save the time spent on string comparisons by using a hash function. That is, if the rolling hash is equal to **pattern**'s hash, perform the naive search by traversing **pattern** from right to left.

Alternatively, we could also eliminate repetitive matching by exploiting the fact that once a mismatch occurs, the information on where the next match could possibly begin is entirely encoded in **pattern**.

