

# Related work

This section presents related work on pattern matching.

## 1-Brute Force (BF)

It is a primary algorithm which preprocesses neither the text nor the pattern. BF carries out a character by character comparison from left to right. After match or mismatch, the window is shifted one position to the right and the matching is restarted from the first character of the pattern. The disadvantage of this algorithm is that it takes a lot of time.

## 2- knuth Morris Pratt ( KMP )

It performs the comparison from the left side. In the event of a mismatch, KMP moves the window to the right by holding the longest overlap of a suffix of the matched text and a prefix of the pattern. It performs well when the alphabet size is large. KMP algorithm requires a long run time when the alphabet size is small or the length of the pattern is short .

## 3- Boyer Moore algorithm

It searches the pattern in the text from right to left. This algorithm first matches the pattern's last character. At the end of the matching phase, it computes the shift increment. To decrease the number of comparisons when a mismatch occurs, It uses two rules (bad character and good suffix) . The disadvantage of the Boyer Moore algorithm is that preprocessing time depends on the pattern length and alphabet size.