

### 1. Brute-force Algorithm Extension:

- The original brute-force algorithm compares each character of the pattern with the corresponding character in the text, moving one character at a time. We extend this algorithm to handle wildcards '?' and '\*'.
- When encountering a wildcard '?' in the pattern, it matches any single character in the text, so we simply move forward in both the pattern and the text.
- When encountering a wildcard '\*' in the pattern, it matches zero or more characters in the text. To handle this, we recursively match the remaining text with the remaining pattern after the ". This allows the wildcard to match any number of characters, including none, until a match is found or all possibilities are exhausted.
- We also add the ability to escape the wildcards '?' and '\*' by preceding them with a backslash ". This ensures that the wildcards are treated as literals if they need to be matched specifically.

### 2. Sunday Algorithm Extension:

- The original Sunday algorithm compares each character of the pattern with the corresponding character in the text, shifting by one character when a mismatch occurs. We extend this algorithm to handle wildcards '?' and '\*'.
- Similar to the Brute-force extension, when encountering a wildcard '?' in the pattern, we treat it as a match with any single character in the text, so we move forward in both the pattern and the text.
- When encountering a wildcard '\*' in the pattern, it can match zero or more characters in the text. To handle this, we need to determine the next possible shift when a mismatch occurs. Instead of shifting by one character, we find the next character in the text after the mismatch and calculate the shift based on the position of that character in the pattern. This allows the algorithm to skip potential matches and continue searching for a match.
- Similarly, we provide the ability to escape the wildcards '?' and '\*' by preceding them with a backslash ", treating them as literal characters when necessary.

These extensions enable the Brute-force and Sunday algorithms to handle wildcard characters '?' and '\*', as well as the ability to escape them if needed. These modifications enhance the algorithms' flexibility and allow for more versatile pattern matching, accommodating a wider range of search requirements.