1) Write the algorithm for pattern matching algorithm

⇒) Take String and SubString
Let,
$S1$ = length of String.
$S2$ = length of SubString

Initialize $i = 0$ and $j = 0$ and
count $= 0$

~~for i←o to S1N~~

for $i ← 0$ to $S1 - S2$
    for $j ← 0$ to $S2 - 1$

        if (char at Str != char at SubStr)
        break;
        end if

        if ($j == S2$)
        Output i
        count $= 1$
        end if structure
    end for
end for
if (count $== 0$) return 0

2) Find the relationship between the length of the text string and the pattern string considering the worst case situation.

→ In worst case situation, else will check outer loop goes from 0 to S1-S2 and inner loop goes from 0 to till length of substring (S2)