# Algorithm Design
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# Solution of Exercise C-9.4

Modify the KMPMatch algorithm to maintain a variable *maxIndex* which is the index of the longest prefix found, *maxLen* which is the length of the longest prefix found, and *currentLen* which is the length of the current prefix. Initialize all three variables to zero and modify the loop in KMPMatch as follows:

- If $T[i] = P[j]$, increment *currentLen*
- If $T[i] \neq P[j]$ and $j > 0$, if $currentLen > maxLen$, then set $maxLen = currentLen$ and $maxIndex = i - j$ . In any case, reset $currentLen = 0$.

When the algorithm terminates, *maxIndex* and *maxLen* will hold the location and length of the longest prefix.