

```
1  /*
2   | Knuth-Morris-Pratt |
3   Desc: Single string matching in O(n)
4   Source: KawakiMeido
5   State: Untested lmao
6 */
7
8 pi[0] = 0;
9 for (int i=1; i<(int)s.size(); i++){
10    int cur = i;
11    while (cur!=0){
12        if (s[i]==s[pi[cur-1]]){
13            pi[i] = pi[cur-1]+1;
14            break;
15        }
16        cur = pi[cur-1];
17    }
18    if (cur == 0){
19        if (s[i] == s[0]) pi[i] = 1;
20        else pi[i] = 0;
21    }
22}
23
```