

FURTHEST-IN-FUTURE( $R, C$ )

```
1  for  $i = 1$  to  $R.length$ 
2      if  $R[i] \in C$ 
3          Cache Hit
4      else
5          Cache Miss
6          if Cache is not full
7              add  $R[i]$  to Cache
8      else
9          //  $tmp$  is used to keep track of the latest appearance
10         // of cache item in the sequence
11          $tmp = i$ 
12         //  $pos$  is used to keep track of the position in cache to be replaced
13          $pos = 1$ 
14         for  $j = 1$  to  $C.length$ 
15              $p = i$ 
16             // find the first appearance of the specified cache item in the sequence
17             while  $R[p] \neq C[j]$ 
18                  $p = p + 1$ 
19             // if  $p$  reaches the end of sequence without
20             // finding the specified cache item
21             if  $p > R.length$ 
22                 //  $p = Infinity$ 
23                  $pos = j$ 
24                 break from the inner for loop
25             // update  $tmp$ 
26             if  $p > tmp$ 
27                  $tmp = p$ 
28                  $pos = j$ 
29          $C[pos] = R[i]$ 
```