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CSCI-UA 310-001 PS5

```
4.  $Opt(t)$ :  
   if  $T[t] = \perp$   
     if  $|t| = 0$   
        $T[t] \leftarrow \text{true}$   
     else  
       for  $i$  in  $[0..k)$   
         if  $t.\text{substring}(0, |s_i|) = s_i$  and  $Opt(t.\text{substring}(|s_i|, t))$   
            $T[t] \leftarrow \text{true}$   
         else  
            $T[t] \leftarrow \text{false}$   
   return  $T[t]$ 
```

Invoke  $Opt(t)$  and have the set of  $s$  tiles as a global variable

The running time would be  $O(|t| * \sum_j |s_j|)$ , as for the length of  $t$ , we consider subproblems where we compare all tiles. This would be optimized for runtime if we can implement substring in a constant time.