Assignment #3 (Programming Assignment)
Dynamic Programming
Due Date: August 2, Thursday (send e-mail to tcan@ceng.metu.edu.tr)

This is your third homework. While the first two homeworks were written homeworks this one is a programming homework and requires a bit more work than the others.

You may be wondering why I have written the previous paragraph. But upon careful examination you may see that I have written the word “homework” quite many times: 24166 times in total. You can count it if you want by first finding an 'h'; then find an 'o' later in the paragraph; then find an 'm' after that, and so on:) Of course, you do not want to count it manually. In this homework, your goal is to write a program that can take any single line from user and print out how many times that line contains the word "homework".

In other words, given a text string, you need to find out how many times the string "homework" appears as a sub-sequence of the input string. Formally, find a sequence $s$ of increasing indices on the input string $c$ such that the concatenation of $c[s[0]]$, $c[s[1]]$, ..., $c[s[7]]$ is the string "homework". Your goal is to find out how many different such index sequences exist.

The input string is going to be such that the output will be within the limits of an integer.

**Input:**
A single line of text, containing only lower-case letters and spaces.

**Output:**
A single integer indicating the number of times the word “homework” appears in the input text.

**Limits:**
Input string will be at most 500 characters.

**Submission:**
Send your source code and a one paragraph description of your dynamic programming recurrence relation to tcan@ceng.metu.edu.tr.

**Example outputs:**

<table>
<thead>
<tr>
<th>INPUT</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>homework homework</td>
<td>11</td>
</tr>
<tr>
<td>hhhoomeewwoorrkkkk</td>
<td>1152</td>
</tr>
<tr>
<td>i love doing homework at home working at home is better than working in school my mother tells me not to work so much but i love working anyway</td>
<td>4074</td>
</tr>
</tbody>
</table>