Recursive method tracing
Stack based approach to
2009 AP CS A Multiple Choice #40

By: Brandon Horn
apcstutoring.com
Method `goAgain` makes only 1 recursive call so there is no need to track line numbers. The initial call is `goAgain("today", 1)` which can be abbreviated as `g("today", 1).`
g("today", 1) calls g("oday", 2).

g("oday", 2)
g("today", 1)
calls \text{g}("ay", \ 3).
\texttt{g("ay", 3)} stops at the base case because $3 \geq 2$.
The method returns its parameter, "ay".
\texttt{g("oday", 2)} returns its parameter, "oday", plus the return value from \texttt{g("ay", 3)}.

\begin{align*}
\texttt{g("ay", 3)} & \quad \text{returns } \texttt{"ay"} \\
\texttt{g("oday", 2)} & \quad \text{returns } \texttt{"odayay"} \\
\texttt{g("today", 1)} & \quad \text{returns } \texttt{"today"}
\end{align*}
\( g("today", 2) \) returns its parameter, "today", plus the return value from \( g("oday", 2) \).