

Recursive computation of the Fibonacci numbers

When we compute the Fibonacci numbers recursively, we compute $F(n)$ by independently computing $F(n - 1)$ and $F(n - 2)$.

Note that $F(n - 1)$ also requires that we compute $F(n - 2)$, and so $F(n - 2)$ is computed twice, rather than once and then re-used.

It would be much better if we had stored the computations for $F(i)$ for smaller values of i (in $\{1, 2, \dots, n - 1\}$) so that they could be re-used.