Final exam.

Let $f$ be the Fibonacci function given by the following scheme: $f(0) = 1$, $f(1) = 1$ and $f(n + 2) = f(n + 1) + f(n)$ for every $n \geq 0$.

1. Identify a $\Sigma_1$ formula defining $f$.
2. Show that $f$ is primitive recursive.
3. Find a Post system computing the function $f$.
4. Show that the function $g(x, y)$ = the largest common factor of $x, y$ is computable.
5. Show that the function $h(x) = 1$ if $x$ is a prime and $h(x) = 0$ otherwise, is computable.