Using the characteristic equation, solve the following recurrence (note the minus sign):

\[ f(n) = -f(n - 1) + 2f(n - 2) \]

with \( f(0) = 4 \) and \( f(1) = 1 \).

\textit{Characteristic equation is } \( x^2 + x - 2 \).
\textit{Roots are} \( 1 \) \textit{and} \( -2 \).
\textit{Formula is} \( 3 + (-2)^n \).