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*A Problem on Generation Sets Containing Fibonacci Numbers*,  

**Abstract**  
At the Sixteenth International Conference on Fibonacci Numbers and Their Applications the following problem was posed by Clark Kimberling:  
Let $S$ be the set generated by these rules: Let $1 \in S$ and if $x \in S$, then $2x \in S$ and $1-x \in S$, so that $S$ grows in generations:  
\[ G_1 = \{1\}, G_2 = \{0, 2\}, G_3 = \{-1, 4\}, \ldots. \]  
Prove or disprove that each generation contains at least one Fibonacci number or its negative.  

In this paper we generalize the problem as follows. Let $S$ be the set described above, $S$ be a sequence and $P$ the property that a generation contains a term of $S$ or the negative of a term of $S$. We will show that when $S$ is the Fibonacci sequence there are many generations that fail to have property $P$. Other sequences $S$ will also be considered and shown to have at least one generation failing to have property $P$. The proportion of generations failing to have property $P$ is also investigated.