We consider an infinite set $S = \{k_1, k_2, \ldots\} \subseteq \mathbb{Z}^+$. In this paper, we answer the following two questions. Is it possible for $S$ to have the property that for every subset $S' = \{e_1, \ldots, e_n\}$ of $S$, the polynomial $f(x) = 1 + x^{e_1} + \cdots + x^{e_n}$ is reducible? Next, is it possible for $S$ to have the property that for every subset $S'$, the polynomial $f(x)$ is irreducible? (Received September 17, 2004)