In 1956, H. Riesel noticed that 509203 has a special property: the sequence $509203 \cdot 2^n - 1$ (where $n = 1, 2, 3, \ldots$) contains no primes. A few years later, W. Sierpiński found a similar sequence; $78557 \cdot 2^n + 1$ also comprises only composite integers. The integers 509203 and 78557 are called Riesel and Sierpiński numbers, respectively. In this talk, we will discuss familiar sequences of integers that contain infinitely many Riesel or Sierpiński numbers. (Received September 06, 2018)