Periodic sequence



A sequence is called *periodic* if it repeats itself over and over again at regular intervals.

Formally, a sequence u_1 , u_2 , ... is periodic with period T (where T > 0) if $u_{n+T} = u_n$ for all $n \ge 1$. The smallest such T is called the *least period* (or often just "the period") of the sequence.

For example, the following sequences are periodic:

0, 1, 0, 1, 0, 1,	least period 2
$0, 1, 0, -1, 0, 1, 0, -1, \dots$	least period 4
1, 1, 1, 1, 1,	least period 1