By a sequence, we mean an arrangement of numbers in a definite order according to some rule. We denote the terms of a sequence by $a1, a2, a3, \ldots$ etc., the subscript denotes the position of the term.

In view of the above a sequence in the set X can be regarded as a mapping or a function $f : N \longrightarrow X$ defined by

$f(n) = t$

$n \ \forall \ n \in N$.

The domain of f is a set of natural numbers or some subset of it denoting the position of the term. If its range denoting the value of terms is a subset of R real numbers then it is called a real sequence.

A sequence is either finite or infinite depending upon the number of terms in a sequence.
We should not expect that its terms will be necessarily given by a specific formula.
However, we expect a theoretical scheme or rule for generating the terms.
Let a1, a2, a3, ... be the sequence, then, the expression a1+ a2+ a3+ ...is called the series associated with given sequence. The series is finite or infinite according as the given sequence is finite or infinite.
Remark When the series is used, it refers to the indicated sum not to the sum itself.

Sequence following certain patterns are more often called progressions. In progressions, we note that each term except the first progresses in a definite manner.