

Sequence and Series

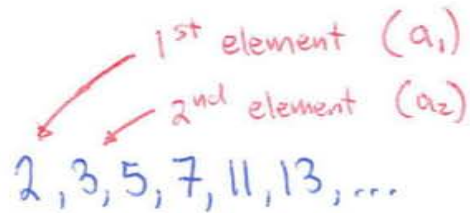
Sequence: a set of related events or things that follow each other in a particular order

series: the sum (i.e. Σ) of a finite or infinite sequence.

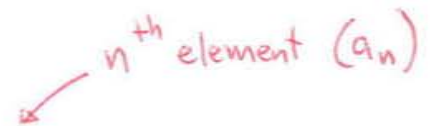
examples:

Prime Numbers Sequence:

2, 3, 5, 7, 11, 13, ...



n^{th} element (a_n)



Fibonacci Number Sequence:

0, 1, 1, 2, 3, 5, 8, 13, ..., $a_{n-1} + a_{n-2}$

Harmonic Sequence:

$1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \dots, \frac{1}{n}$

Geometric Sequence:

1, 2, 4, 8, 16, 32, ..., $a_1 r^n$

Arithmetic Sequence:

1, 3, 5, 7, 9, 11, ..., $a_1 + nk$