

What is difference between sequence and series?

Solution:

A sequence is a list of numbers. The order in which the numbers are listed is important, so for instance

$$1, 2, 3, 4, 5, \dots$$

is one sequence, and

$$2, 1, 4, 3, 6, 5, \dots$$

is an entirely different sequence. A series is a sum of numbers. For example,

$$1 + 1/2 + 1/4 + 1/8 + 1/16 + \dots$$

is an example of a series. A series is composed of a sequence of terms that are added up.

A series, in turn, can be associated with the sequence of its terms;

for instance,

$$1 + 1/4 + 1/16 + 1/64 + \dots$$

can be associated with

$$1, 1/4, 1/16, 1/64, \dots$$

which are simply the terms without the addition signs.

Basic difference between sequence and series is that a sequence is simply a list of numbers, whereas a series is a sum of numbers.