0.1 Cesàro sum

The Cesàro sum is the limit of the average of the first n partial sums.

That is:

$\lim_{n\to\infty} \frac{1}{n} \sum_{k=1}^{n} s_k$

Consider the sequence $\{1, -1, 1, -1, ...\}$

The partial sum is:

$s_k = \sum_{i=1}^{k} a_i$

$s_k = k \mod (2)$

The Cesàro sum is: $\lim_{n\to\infty} \frac{1}{n} \sum_{k=1}^{n} s_k$

$\lim_{n\to\infty} \frac{1}{n} \sum_{k=1}^{n} k \mod (2)$

$\frac{1}{2}$