A very crucial aspect of sequences and series

\[ \text{SERIES} \sum_{n=1}^{\infty} a_n \]

- Partial sum sequence \( \{S_n\} \)
  - is \( a_1, a_1 + a_2, a_1 + a_2 + a_3, \ldots \)

- Original sequence \( \{a_n\} \)
  - is \( a_1, a_2, a_3, \ldots \)

By definition, the convergence (or divergence) of the partial sum sequence \( \{S_n\} \) is the same as that of the series \( \sum_{n=1}^{\infty} a_n \).

But never confuse the convergence of the original sequence \( \{a_n\} \) with that of the series \( \sum_{n=1}^{\infty} a_n \).