Existence of the Fourier Series:

**Dirichlet Conditions**

- For the existence of the Fourier series, coefficients \( a_0, a_n \) and \( b_n \) must be finite.

- For the coefficients \( a_0, a_n \) and \( b_n \) to be finite,
  \[
  \int_{-\pi}^{\pi} |f(t)| \, dt < \infty
  \]
  Ensure convergence of Fourier Series, but does not guarantee convergence at every point.

- Thus, for a convergent Fourier series,
  in addition to the Dirichlet condition,
  the function \( f(t) \) must remain finite
  and must have only a finite number
  of maxima and minima in one period.