19.1 [1NJ] Let $I \subseteq \mathbb{R}$ be a nonempty open interval. Let $f : I \to \mathbb{R}$ be a C^∞ class function. Let

$$b_n = \sup_{x \in I} |f^{(n)}(x)| = \|f^{(n)}\|_\infty \quad ;$$

if

$$\limsup_{n \to \infty} \frac{1}{n} \sqrt[n]{b_n} < \infty$$

then f is analytic.

Show with a simple example that the request is not necessary.

Solution 1. [1NK]