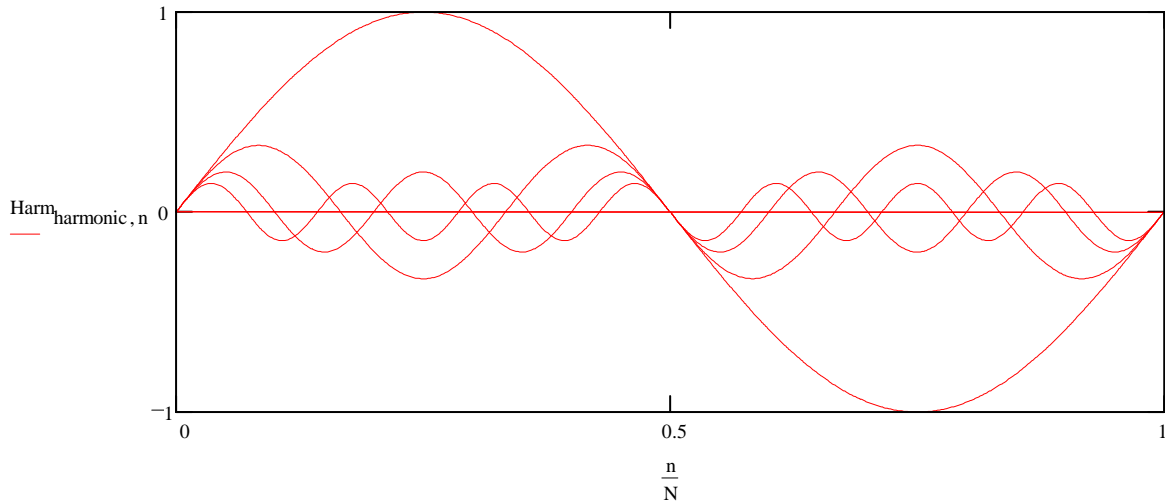


Fourier series

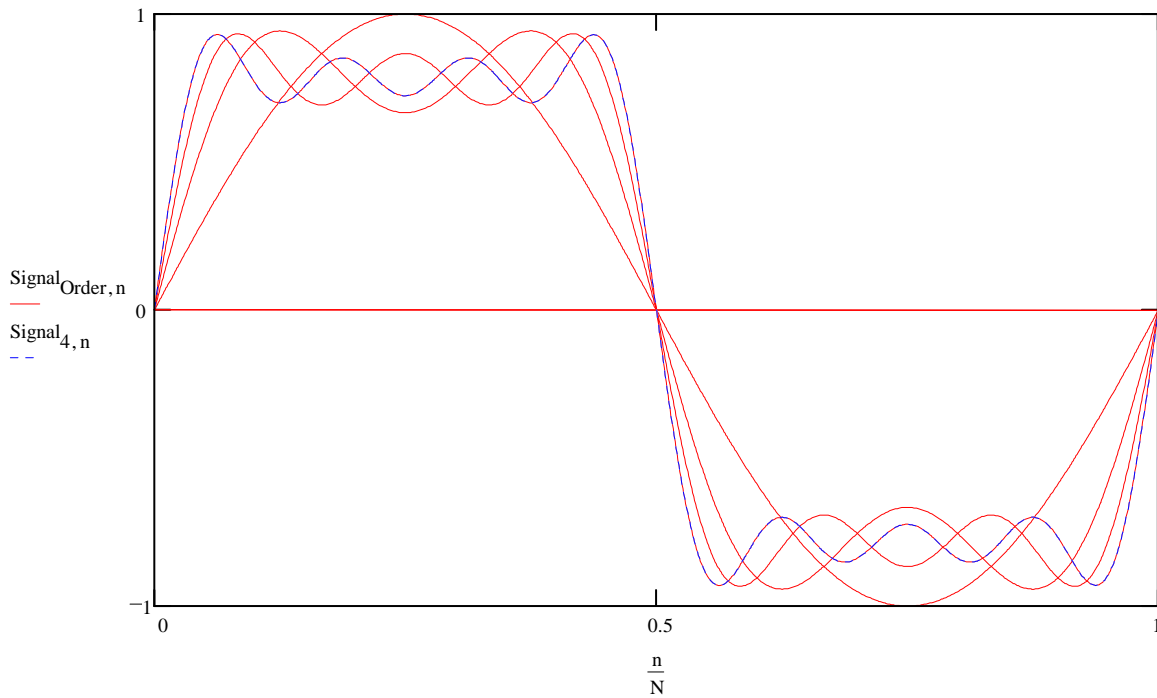
Alan Bloom 10/29/2006

$$h_max := 7 \quad \text{harmonic} := 1, 3 .. h_max \quad N := 1024 \quad n := 0 .. N \quad F_{\text{harmonic}} := \frac{\text{harmonic}}{N}$$

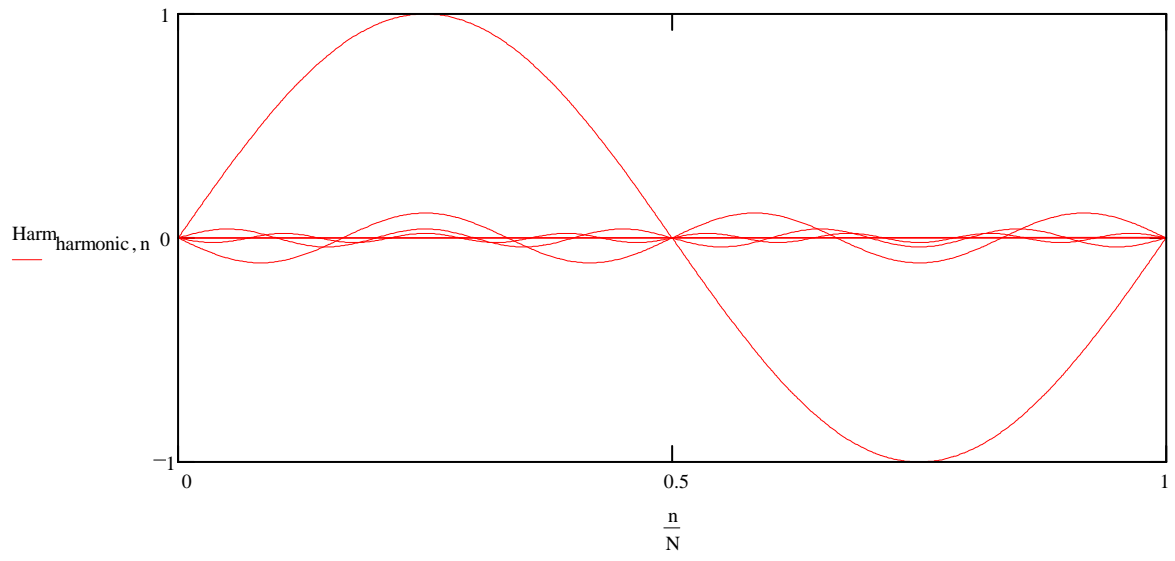
$$\text{Harm}_{\text{harmonic}, n} := \frac{1}{\text{harmonic}} \cdot \sin(2 \cdot \pi \cdot F_{\text{harmonic}} \cdot n)$$



$$\text{Order} := 1 .. \frac{h_max + 1}{2} \quad \text{Signal}_{\text{Order}, n} := \sum_{j=1}^{\text{Order}} \text{Harm}_{j-2-1, n}$$



$$\text{Harm}_{\text{harmonic}, n} := \frac{(-1)^{\frac{\text{harmonic} - 1}{2}}}{\text{harmonic}^2} \cdot \sin(2 \cdot \pi \cdot F_{\text{harmonic}} \cdot n)$$



$$\text{Signal}_{\text{Order}, n} := \sum_{j=1}^{\text{Order}} \text{Harm}_{j \cdot 2 - 1, n}$$

