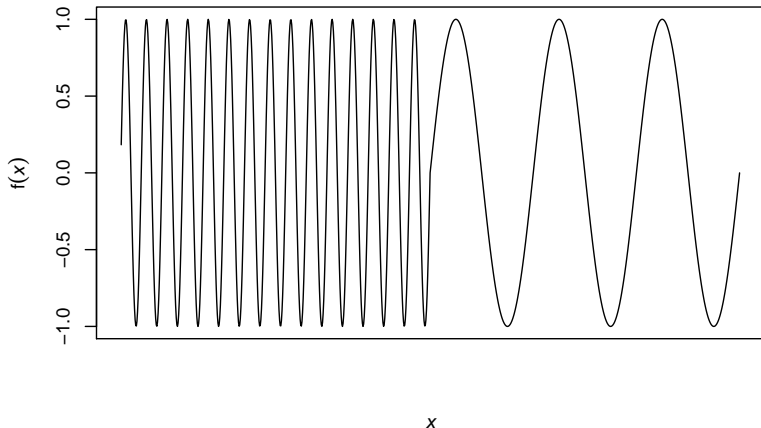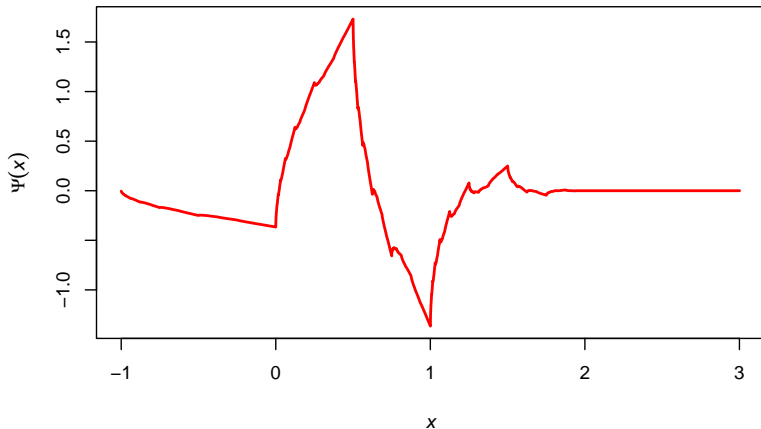# A few extra slides on wavelets

Consider a situation where the first half of the signal follows $\sin(5x)$ and the second half follows $\sin(x)$. Thus we have non-stationary behaviour with changes in frequency combined with location.
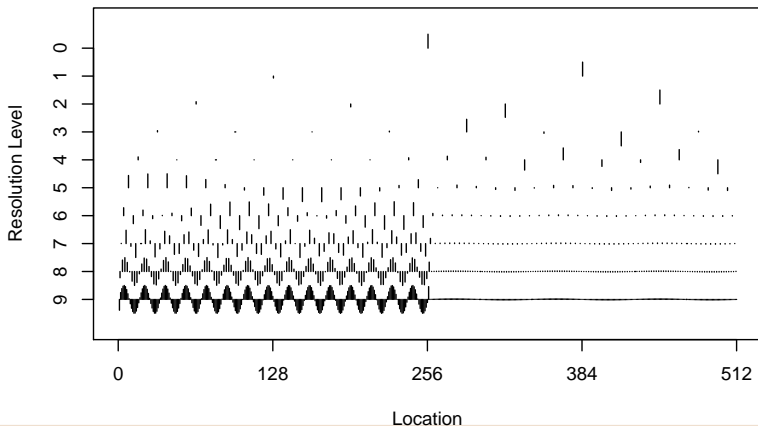

x

Consider a mother wavlet from the Daubechies family

Daubechies wavelet

Here are the wavelet coefficients (scaled by horizontal level)

Notice that the higher frequency coefficients are broadly found on the left whereas the lower frequency coefficients are found on the right.

Here are the wavelet coefficients (unscaled)

Many of the smallest coefficents could be replaced by zeros resulting in a significant degree of compression of the original signal data without destroying the overall characteristics of the signal.