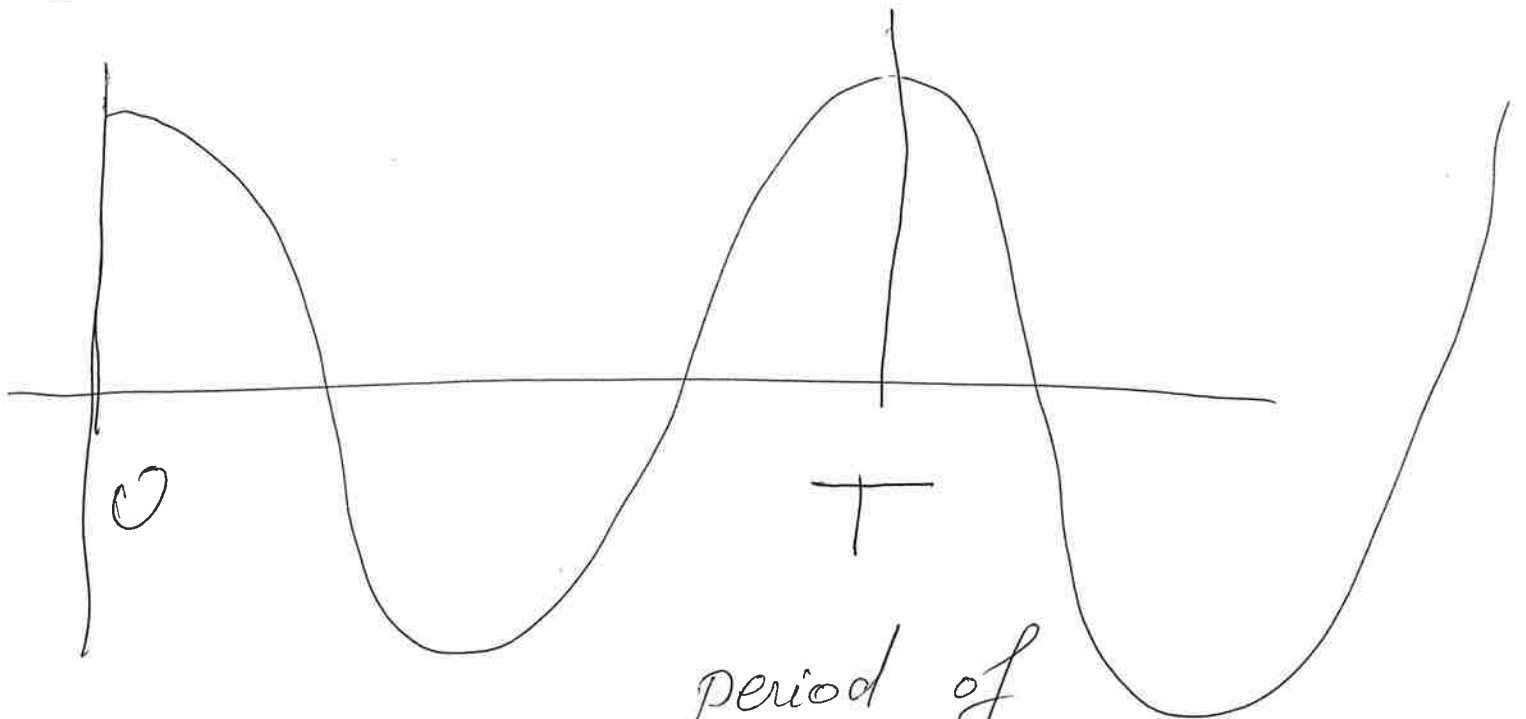


Sound

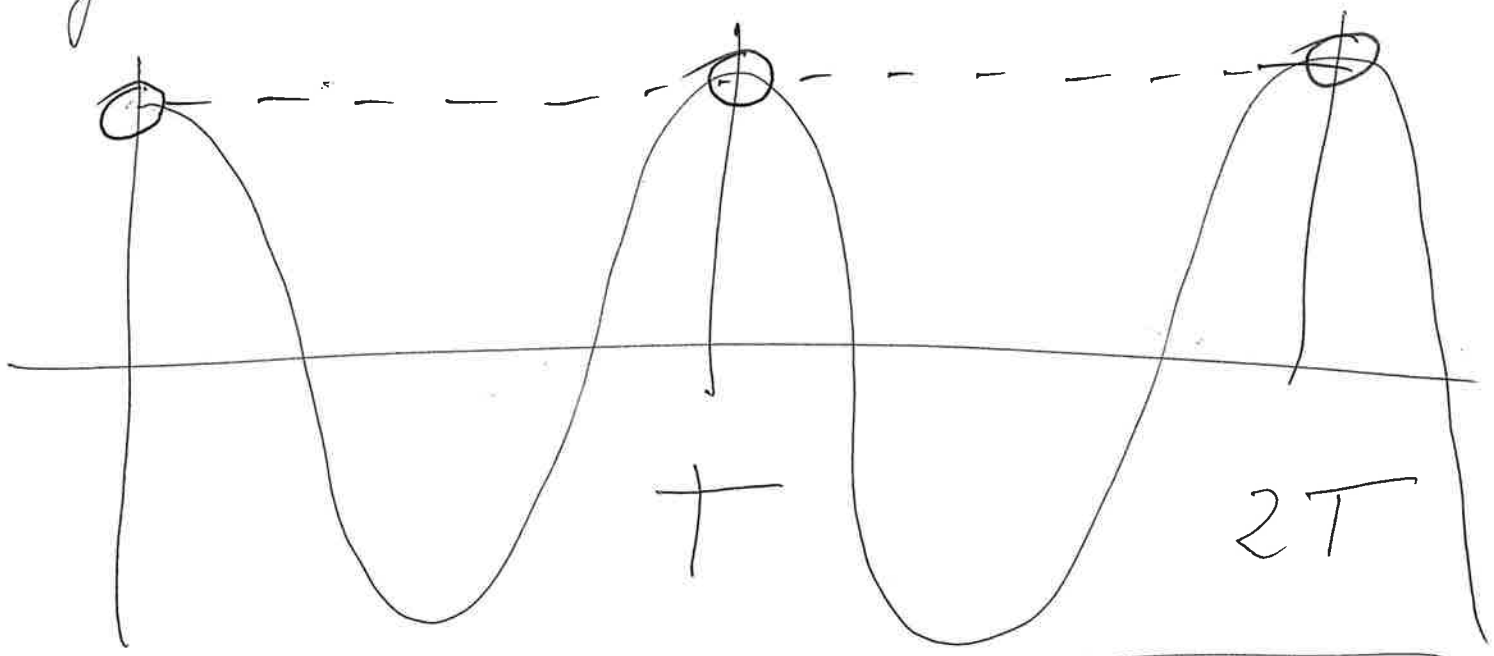
period of
the signal

Inverse of the period: $f = \frac{1}{T}$

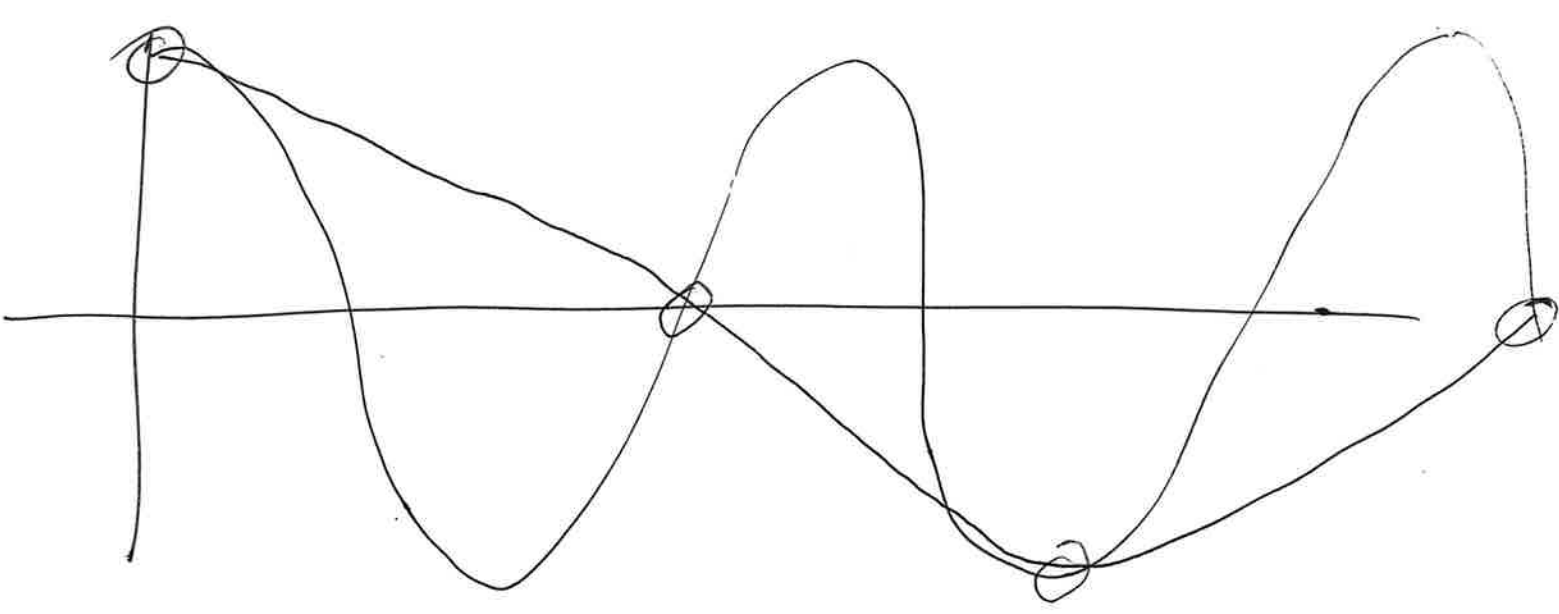
"frequency": how many periods occur in
1 second.

Unit of frequency: Hertz (Hz)

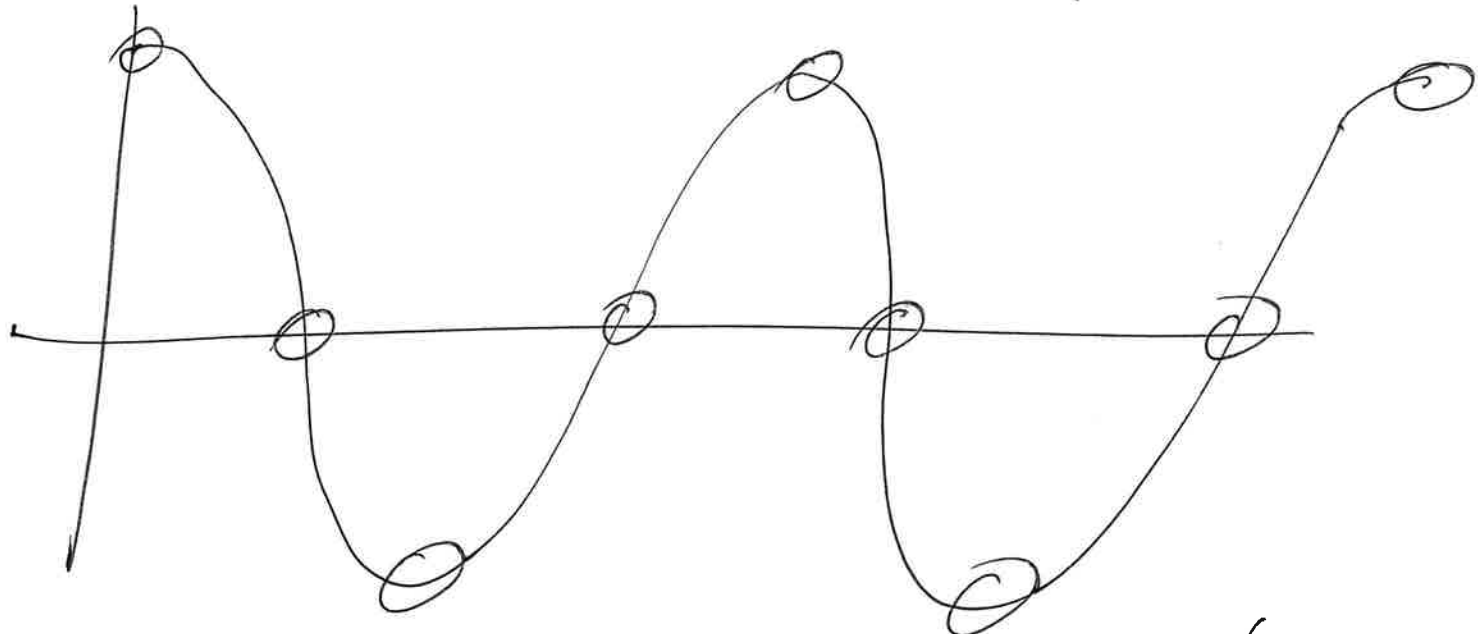
let us go back to a continuous signal (3)



Sampling uses constant time interval

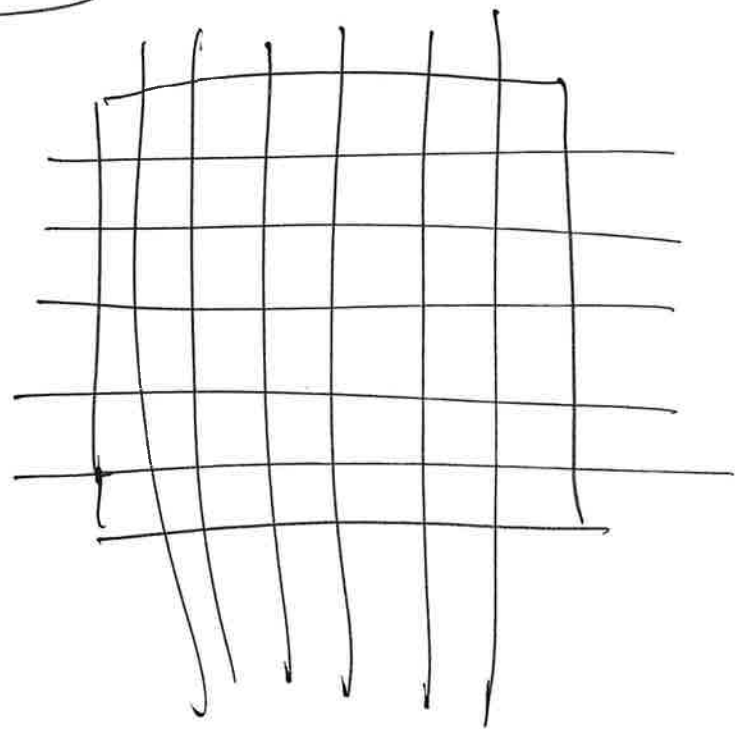


The music industry samples sound at 44 100 Hz. We looked at sampling rate.



Each sample point is discrete, given a limited space (number of bits). In the music industry, each sample point is stored on 16 bits.

Images



The image is represented by a collection of small 2 dimensional cells \Rightarrow pixels.

Each pixel : color
intensity

How do we represent a color?

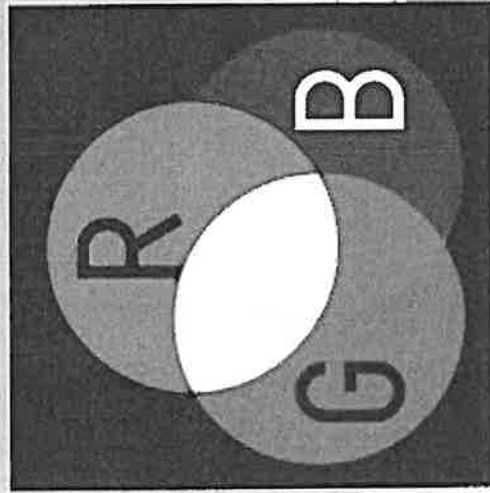
The traditional way is to think of a color as a combination of 3 fundamental colors: R, G, B.

Digital Images

The RGB color model (used for most digital representations of images)

Notation	RGB triplet
Arithmetic	(1.0, 0.0, 0.0)
Percentage	(100%, 0%, 0%)
Digital 8-bit per channel	(255, 0, 0) or sometimes #FF0000 (hexadecimal)

Mixing colors:



00 FF 00
00 00 FF
FF FF FF
00 00 00