Sine as a function of time (t):
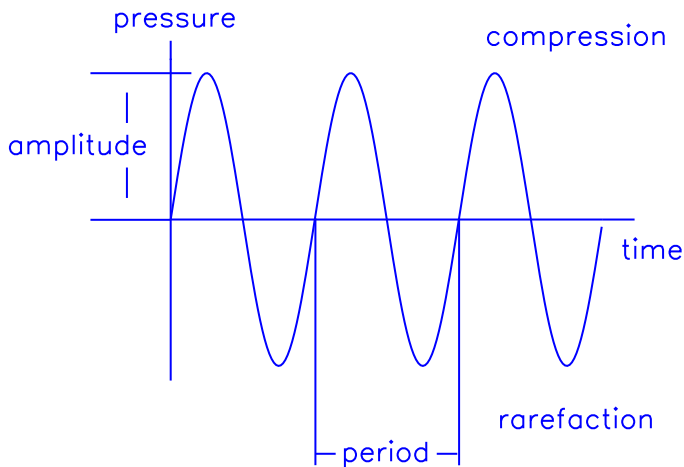
$$y(t) = A\sin(2\pi ft + \varphi) = A\sin(\omega t + \varphi)$$

A, amplitude, the peak deviation of the function from zero.

f, ordinary frequency, the number of oscillations (cycles) that occur each second of time.

ω, $2\pi f$, angular frequency, the rate of change of the function argument in units of radians per second.

φ, phase, specifies (in radians) where in its cycle the oscillation is at t = 0.

In matplotlib:

```
# parameters
time = np.arange(0, math.pi*6, 0.1) # x axis
frequency = 1 # 1 Hz
phase = 0 # phase (in radians)

# A 1 Herz sine wave. Completes a cycle every second.
y = np.sin((math.pi*2)*frequency*time + phase)
```