

## Calculation of the Running Average

The running average can be calculated using Equation 1:

$$avg[n] = avg[n-1] * (n-1)/n + current\_sample * 1/n \quad (1)$$

where  $avg[n]$  is the average of  $n$  samples,  $avg[n-1]$  is the average of the previous  $n-1$  samples, and  $current\_sample$  is the value that will be combined with  $avg[n-1]$  to obtain the new average.

*Example:*

Let us assume we have the following set of samples: 1, 2, 3, 4, and 5. The running average for this sequence of samples can be calculated using Eq. 1.

$$avg[1] = 1$$

$$avg[2] = avg[1] * (2-1)/2 + 2 * 1/2 = 3/2$$

$$avg[3] = 3/2 * (3-1)/3 + 3 * 1/3 = 2$$

$$avg[4] = 2 * (4-1)/4 + 4 * 1/4 = 5/2$$

$$avg[5] = 5/2 * (5-1)/5 + 5 * 1/5 = 3$$