

## Difference Equation

To get the difference equation between the signal and the filter, we need to multiply a piece of the signal with the filter coefficients.

About the exercise, the formula to have difference equation is:

$$y[z] = - 0.030 * x[n] + 0.131 * x[n-1] + 0.271 * x[n-2] - 0.161 * x[n-3] + 0.577 * x[n-4] - 0.161 * x[n-5] + 0.271 * x[n-6] + 0.131 * x[n-7] - 0.030 * x[n-8]$$