

Task 6

Add to your framework a menu named Time Domain that includes the following features:

- 1) Smoothing: Compute moving average $y(n)$ for signal $x(n)$ let the user enter the number of points included in averaging. 1
- 2) Sharpening: Compute and display $y(n)$ which represents
First Derivative of input signal
$$Y(n) = x(n) - x(n-1)$$

Second derivative of input signal
$$Y(n) = x(n+1) - 2x(n) + x(n-1) \quad 2$$
- 3) Delaying or advancing a signal by k steps. 1
- 4) Folding a signal. 1
- 5) Delaying or advancing a folded signal. 1
- 6) Remove the DC component in frequency domain. 1
- 7) The ability to convolve two signals. 3