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BMEN 3302.501 Bioengineering Signals and Systems

Mini project 1

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Steps:

Define the coordinates of each component.

Calculate and define T, the fundamental period.

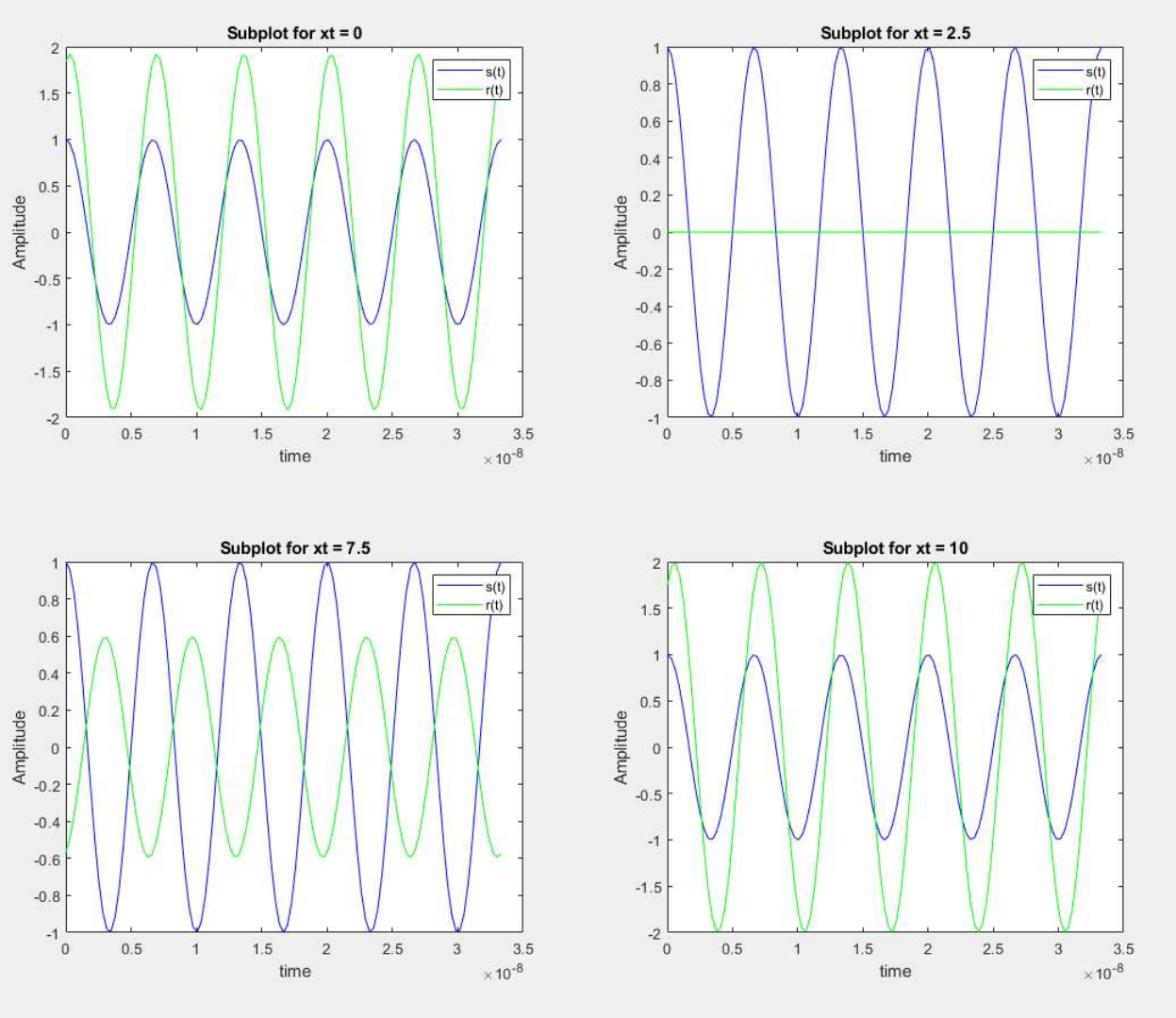
Define t to be an array from 0 to 5T in steps of pi/10^10.

Define s(t).

Calculate the time delay with different xt values.

Calculate r(t) for each of the 4 different xt values.

Plot each accordingly.




For all the subplots, the blue wave displays s(t), the original plot. Then, the green wave displays r(t), the addition of the direct wave and the reflected wave.

There is a blindspot where xt = 2.5m. This occurs, because the translation caused the translation of the waveform to be exactly the opposite of the original. Upon adding the original and the opposite of it, the waveforms cancel each other out, causing no signal to be received.