Chart, funnel chart

Description automatically generated

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| --- | --- |
| Course Number | ELE532 |
| Course Title | Signals and Systems I |
| Semester/Year | F2022 |
| Instructor | Dimitri Androutsos |
| TA Name | Sarina Taki |
| Section No. | 08 |
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|  |  |  |
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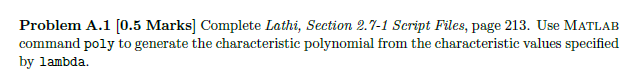
# Introduction

The objective of this lab is to learn how to use M-Files, create signals and perform convolution.

# Lab Results

Logo

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Graphical user interface, text, application, email

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Text

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Chart, line chart, histogram

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Graphical user interface, text, application, email

Description automatically generated

Text

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Text

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Background pattern

Description automatically generated with low confidence

Chart, line chart

Description automatically generated



Graphical user interface, text, application

Description automatically generated

Chart, line chart

Description automatically generated



Graphical user interface, text, application

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Chart, line chart

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Graphical user interface, text, application

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Chart, line chart

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Text

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Text

Description automatically generated

Chart, line chart

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h1(t) = 0.2

h2(t) = -0.2

h3(t) = -1

h4(t) = -0.2 and -1



Graphical user interface, text

Description automatically generatedGraphical user interface, text, application

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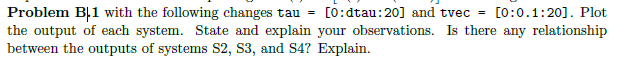
Graphical user interface, chart

Description automatically generated Graphical user interface, chart, line chart

Description automatically generated Graphical user interface

Description automatically generated with low confidence Graphical user interface, chart, line chart

Description automatically generated



h4(t) is h2(t) - h3(t) using this we can derive the relation between the systems.

s2= h2(t-τ) x(τ)

s3= h3(t-τ) x(τ)

Subtract s2 from s3 and we get h2(t-τ) x(τ) – h3(t-τ) x(τ) = [h2(t-τ) – h3(t-τ)] x(τ) = h4(t-τ) x(τ) which is s4 and this proves the graphs

# Conclusion

Text

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The duration of the convolution is equal to the sum of both convoluted functions