Chapter 2 Tutorial&Lab

The exercises associated with Chapter 2 of the reference book ("Signals and Systems: A Matlab Integrated Approach" by O. Alkin) will be solved over the course of three weeks (3 Tutorial and 3 MATLAB Lab sessions).

The interest of the Lab is twofold: you will get more insight into the concepts introduced in Chapter 2 and expand your knowledge of MATLAB.

1 Chapter 2 - Tutorial&Lab 1

Problems

Solve the following problems:
Linearity & time invariance of continuous-time systems: **2.1(a,b), 2.2(a,b), 2.3(b)**
Differential equations for continuous-time systems: **2.4**

MATLAB Exercises & Problems

The first part of this Lab consists in reading and reproducing the MATLAB exercises **2.1** and **2.2**. The MATLAB exercises, their solutions, and associated .m files are available from the MATLAB toolbox help.
The second part of this Lab consists in solving the MATLAB Problems **2.32** and **2.33**.

2 Chapter 2 - Tutorial&Lab 2

Problems

Solve the following problems:
Solving first order differential equations: **2.7(c), 2.8(d)**
Solving second order differential equations: **2.9(b), 2.10(b), 2.11(a), 2.12, 2.13(d), 2.14(a)**

MATLAB Exercises & Problems

The first part of this Lab consists in reading and reproducing the MATLAB exercises **2.3** and **2.4**. The MATLAB exercises, their solutions, and associated .m files are available from the MATLAB toolbox help.
The second part of this Lab consists in solving the MATLAB Problem **2.34**.

3 Chapter 2 - Tutorial&Lab 3

Problems

Solve the following problems:
Impulse response & convolution: **2.17(a,b,c), 2.18 (a,b,c), 2.21, 2.22(b,d), 2.23, 2.25, 2.26(a), 2.27(a)**
Causality & stability in continuous systems: **2.29, 2.31(a)**

MATLAB Exercises & Problems

This Lab consists in solving the MATLAB Problems **2.36** and **2.38**.

More ...

You would need to be able to solve all Problems, MATLAB Problems, and MATLAB Projects of Chapter 2, except those related to section 2.6, which is not covered.

Chapter 2 Problems represent typical exam questions.