Department of Electrical and Electronics Engineering
Middle East Technical University

Fall 2018

EE301 Signals and Systems

MATLAB QUIZ INFORMATION SHEET

MATLAB quiz is composed of a short question which should be finished in 20 minutes. The total time for each quiz session will be 30 minutes. When you are invited to the laboratory, you should take an empty spot. The students who will be the first in MATLAB quiz should login to an account whose name and password will be on the laboratory board. Following sessions do not need to login again since the computers will be on all time.

The desktop of each computer has two directories, a directory named EE301 and another directory named 220 (for lab 106) or 20 (for lab 107) corresponding to a desk number of 20.

1. Your MATLAB "*.m" script should be in EE301 directory.
2. When you open MATLAB and write your script, you should choose the name of the script as your **name_surname_ID_desknumber.m**. An example is Veli_Sahin_102487_12.m.
3. When you finish writing your MATLAB script, you should copy and paste it to the directory 220 or 20. When you do this, your script is transferred to the main computer and collected for evaluation. Note that if you do not copy your file to the specified directory, you will not be graded for the quiz. If you have any problem at this stage, inform the assistant for the solution of this problem.
4. Once you copy your file to the specified directory you cannot delete it. At this stage, you need to delete your script in the EE301 directory. Failing to delete your file from this directory or any other place in your computer may lead to loss of points from your quiz grade.
5. Next, you should close MATLAB but do not logout from the account so that next student can start from the beginning.

No questions will be taken during the quiz except the technical problems associated with your computer.

Below you can find an example MATLAB quiz. Note that this example is presented to let you have an idea. It does not represent the content of the quiz question. You are responsible for all the concepts covered in EE301.

Q) Write a MATLAB script to implement the following items

a) Generate a lowpass filter with cutoff $w_c=0.5\pi$ (rad) and length 15 samples with the following command
h=fir1(14,0.5);
b) Find and plot the frequency characteristics of this filter by using N=256 point DFT.
c) Find the frequency where the magnitude spectrum is zero.
d) Generate a sinusoid at the frequency in part c.
e) Find the filter output for the sinusoid input in part d and plot it.
f) Find the energy of h in time.