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Project 3

Project	Description	Team	May 7 Assigned Improvements
A	Predict the max. temp. for the next day using previous days' temperatures, using polynomial and other models	6	Replace the Exponential Fit by another Fit available in LabVIEW Connect the right value for the For Loop N to generate the polynomial for The prediction
B	Predict the oil price for next week using previous weeks' prices, using polynomial and other models	10	Replace the Exponential Fit by another Fit available in LabVIEW Output coefficients into arrays and numeric indicators
C	Detect the frequency spectrum of a given signal using Fourier Transforms	4	Add sound for the signal
D	Say the decimal number for a four-digit binary number	5	Add an introductory audio playback to explain what is being done in this VI
E	Make a 8 keys piano	2	Front Panel; add two buttons, one that would sound all 8 keys from low to high; the other one in reverse order.
F	Solve the quadratic equation with distinction of cases for the discriminant	8	Add a plot to show the quadratic function once coefficients A,B,C are selected. This will allow the user to see what solutions to expect
G	A VI that can calculate the areas of 4 different geometrical shapes	3	Add an option to see the ratio Volume/Area for all shapes
H	A VI that produces interesting sounds from the combination of 2 or more sine waves with different frequencies	9	Use listbox with number options to enter combination of numeric values for frequencies
I	A VI that produces a chirp sound, that is a sound whose frequency is changing with time	7	Add spectrums for the signals using FFT
J	Sound recorder and playback	1	Record and Play back in the same Run

				(without the need to click on the run button again).

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LOGBOOK: example of a logbook page

-Use a quadrille notebook; number all pages; date all entries
-Write your notes for all activities, thoughts, problems and solutions, and learning conclusions related to Engin 103. You should write down progress, outcomes, and conclusions on projects and teamwork; conclusions from class work (including LabVIEW) and homework.
-In addition you should answer in the logbook all questions listed in these notes in blue, as shown below:

51) Explain how did you implement the required modifications for Part II. Insert a revised snapshots of the Front Panel and Block Diagram to satisfy the modifications, explain what has been changed and why.

52) Explain one advanced LabVIEW element you have used or seen in the presentations: where to find it, where does it do, what are its inputs and outputs, and what can it be used for.

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