

- 1- Create a VI that uses a [for loop](#) and the random number generator on the Numeric Palette to generate an array of a specified length of uniformly distributed random numbers with a range of [0-1). Calculate the mean, standard deviation and root mean square of the array. Set the default length of the array to 100 samples.

- 2- Create a VI that uses a [while loop](#), a shift register, and the random number generator on the Numeric Palette to generate an array of a specified length of uniformly distributed random numbers with a range of [0-0.2] and from [0.3-1), In other words, the standard range for the random number generator but without any values between 0.2 and 0.3. Calculate the mean, standard deviation and root mean square of the array. Set the default length of the array to 100 samples.

- 3- Write LabVIEW code that generates a sin (or cosine) waveform and outputs it in a graph.
Add inputs that will allow the user to:
 - change the frequency of the waveform
 - change the amplitude of the waveform.

Note:

- Please pay attention to the deadline of your homework.
- Each above question must be in a separate .vi.
- Please put all .vi files, and result in a zip file.
- Name your file in this way: student name_student number_HW#.
- There are many ways to write those programs. So your result and program performance is important.