1.

(1). Build a subvi named thermometer.vi, which randomly output a Celsius temperature value in between the lower and upper bound set with input parameters of lower bound value, and upper bound value (2 inputs and 1 output). Please set the two inputs to be "required"

(2). Build a subvi named toFahrenheit.vi, which converts a Celsius temperature reading to a Fahrenheit temperature reading. (one input and one output). Please set the only input to be "required"

(3). Build a top level vi, continuous shows the temperature values got from thermometer.vi with a waveform chart in a while loop until the user press stop button. On the panel, user can select the display of temperature scale in Celsius or Fahrenheit and summer or winter mode with different upper/lower bounds preset inside the program.

(4). Show second waveform chart for the current temprature, the running average temperatures in past 5 loops, the average values, the maximum and minimum values of all past temperature values on the front panel and on the waveform chart with multiple-plot. Please do not use the built-in mean and max-min function node and implement the minimum, maximum function by yourself (with shift register and comparison in the loop).

2. Write a dice rolling game with two players which stops when user pushes the stop button. Time delay can be used to slow the game down.

This game should include:

(1). A sub VI which randomly rolls a dice for each player, when player1 or player2 push the roll bottoms on top VI.

(2). A second sub VI which compares the result to mark the winner, or if it is a tie game.

(3). On the top VI, record the average dice number rolled for each player. Calculate the win rate and tie rate. Also record the past 5 dice numbers for each player.

(4). Show the win rate of player 1 and player 2, and the tie rate with a multiple plot waveform chart.