1. Using analytical methods:-

- System Hyperperiod: 100mS.

- CPU Load:-

"Button_1_Monitor"	Execution time(E):	13uS	Periodicity(P):	50mS
"Button_2_Monitor"	E:	13uS	P:	50mS
"Periodic_Transmitter"	E:	16uS	P:	100mS
"Uart_Receiver"	E:	26uS	P:	20mS
"Load_1_Simulation"	E:	5ms	P:	10mS
"Load_2_Simulation"	E:	12ms	P:	100mS

CPU Load = ((2*0.013mS) + (2*0.013mS) + (1*0.016mS) + (5*0.026mS) + (10*5mS) + (1*12mS)) / (100mS)
= 62.198mS / 100mS = 0.62 = 62%

- System schedulability using URM and time demand analysis:-

Using URM:-

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* U = (0.013/50) + (0.013/50) + (0.016/100) + (0.026/20) + (5/10) + (12/100) = 0.622
* URM = 6 * (2^(1/6) - 1) = 0.73
* U < URM --> (Schedulable)

Using Time Demand Analysis:-

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* Time demand for "Load_1_Simulation":
  W(10) = 5 + 0 = 5mS
  W(10) < D = 5mS < 10mS --> (Schedulable)

* Time demand for "Uart_Receiver":
  W(20) = 0.026 + (20/10)*5 = 10.026mS
  W(20) < D = 10.026mS < 20mS --> (Schedulable)

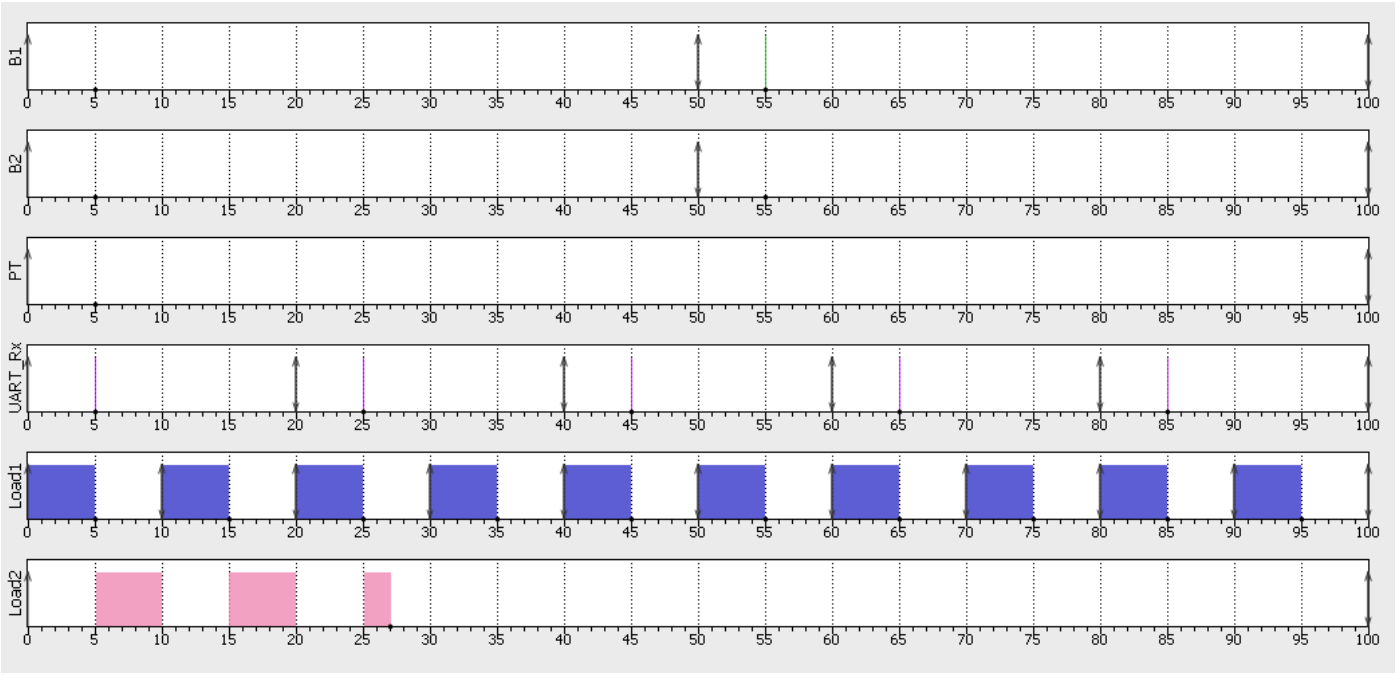
* Time demand for "Button_1_Monitor":
  W(50) = 0.013 + (50/10)*5 + (50/20)*0.026 = 25.078mS
  W(50) < D = 25.078mS < 50mS --> (Schedulable)

* Time demand for "Button_2_Monitor":
  W(50) = 0.013 + (50/10)*5 + (50/20)*0.026 + (50/50)*0.013 = 25.091mS
  W(50) < D = 25.091mS < 50mS --> (Schedulable)

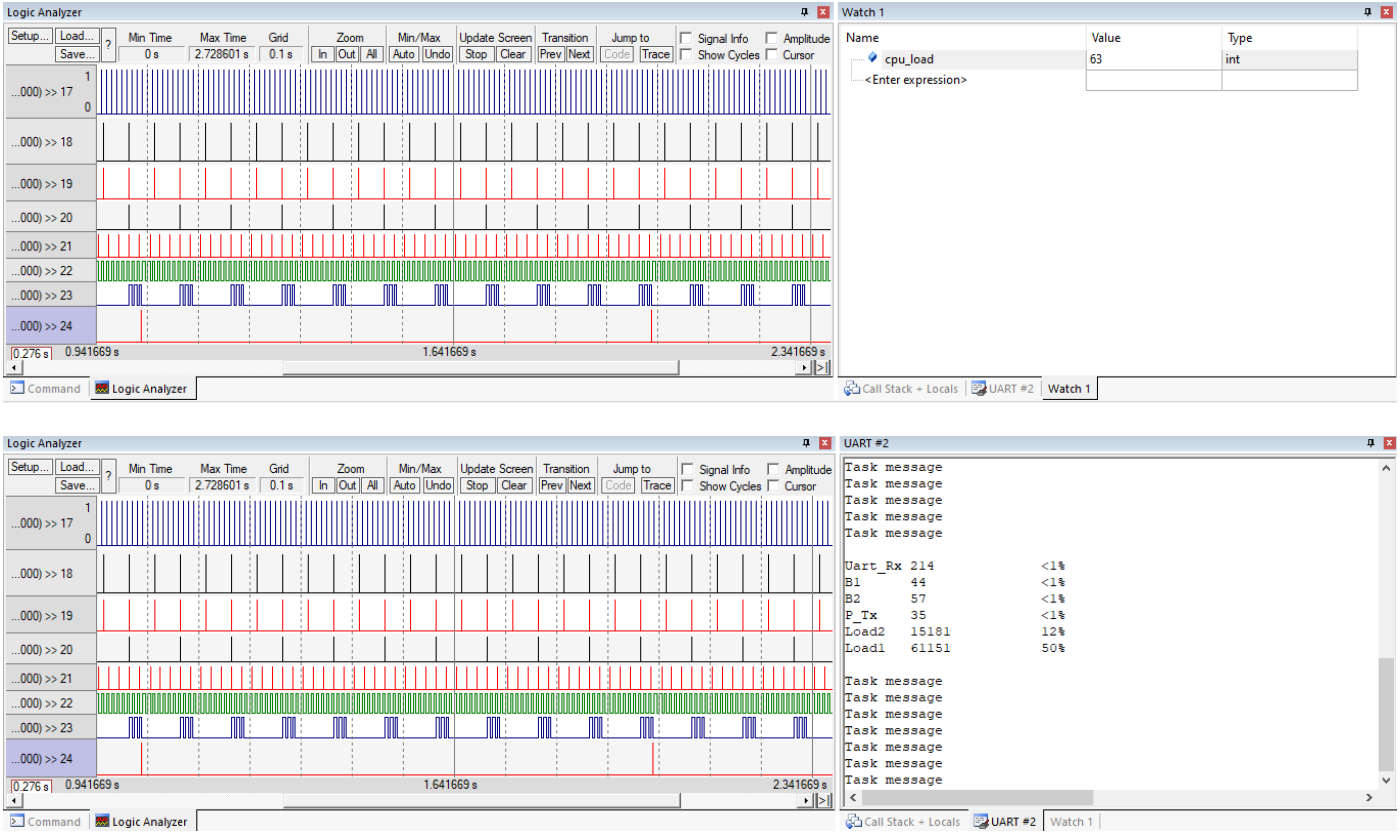
* Time demand for "Periodic_Transmitter":
  W(100) = 0.016 + (100/10)*5 + (100/20)*0.026 + (100/50)*0.013 + (100/50)*0.013 = 50.198mS
  W(100) < D = 50.198mS < 100mS --> (Schedulable)

* Time demand for "Load_2_Simulation":
  W(100) = 12ms + (100/10)*5 + (100/20)*0.026 + (100/50)*0.013 + (100/50)*0.013 + (100/100)*0.016 = 62.198mS
  W(100) < D = 62.198mS < 100mS --> (Schedulable)

2. Using Simso offline simulator:-



3. Using Keil simulator in run-time:-



- The analytical, Simso, and runtime results are identical, expecged and indicates to a successful implementation.