

CO326 - Industrial Networks

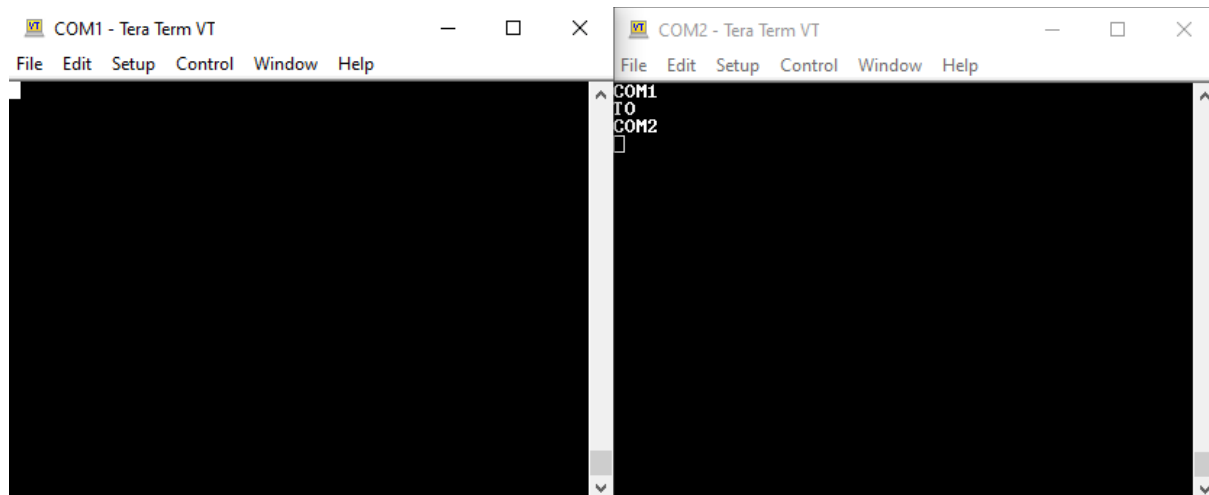
Lab 01 - Serial Port I/O

03/03/2023

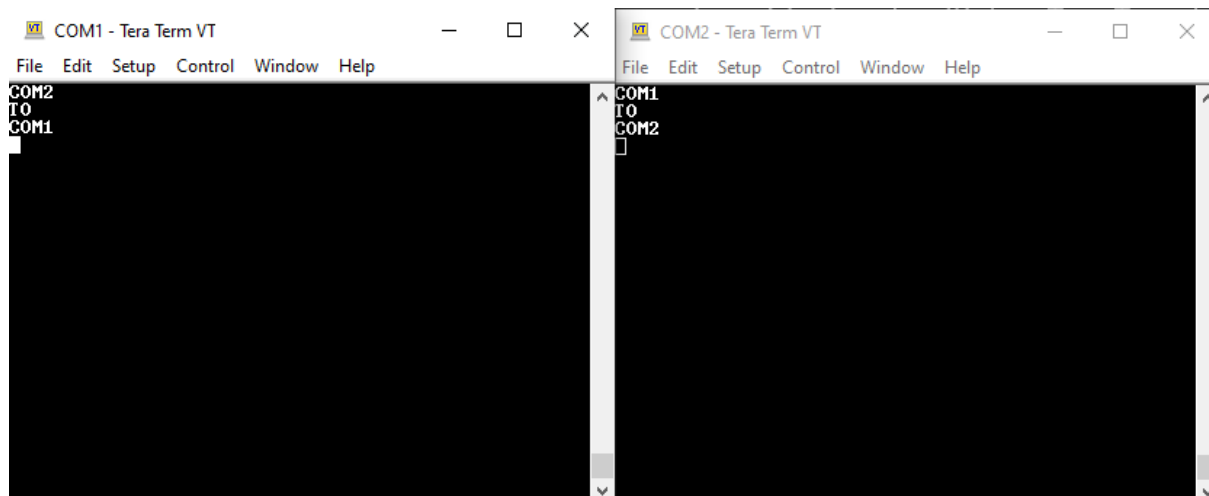
E/18/077 – Dharmarathne N.S. , E/18/227 Mudalige D.H.

Part 1

I. Serial data (text) transfer between two virtual ports with two Tera Term terminals.
COM1 to COM2



COM2 to COM1



II. Output of the monitoring tool when the above data transferring occurs.

Raw Data View

The screenshot displays the 'Raw Data View' of the 'HHD Software Bridged Serial Port (COM1)' in the Device Monitoring Studio. The interface includes a menu bar (File, Edit, View, Sessions, Bridge, Tools, Window, Help) and a toolbar with various icons. The main window is divided into two panes: 'Read' and 'Write'. The 'Read' pane shows a hex dump of data received from the device, with the first packet (Packet # 83) containing the string 'COM2.T0.COM1...'. The 'Write' pane shows a hex dump of data sent to the device, with the first packet (Packet # 3) containing the string 'COM1..T0..COM2..'. Below the hex dumps, there is a 'Sessions' table with columns for Source, Type, Device, Processing, Start, Length, and State. The table is currently empty. On the right side, there is a 'MODBUS Send' dialog box with fields for Session, Mode (ASCII Mode), Address (0), Function (REQUESTS), and Result Length. The 'Selected Packet' is set to 'MODBUS Send'.

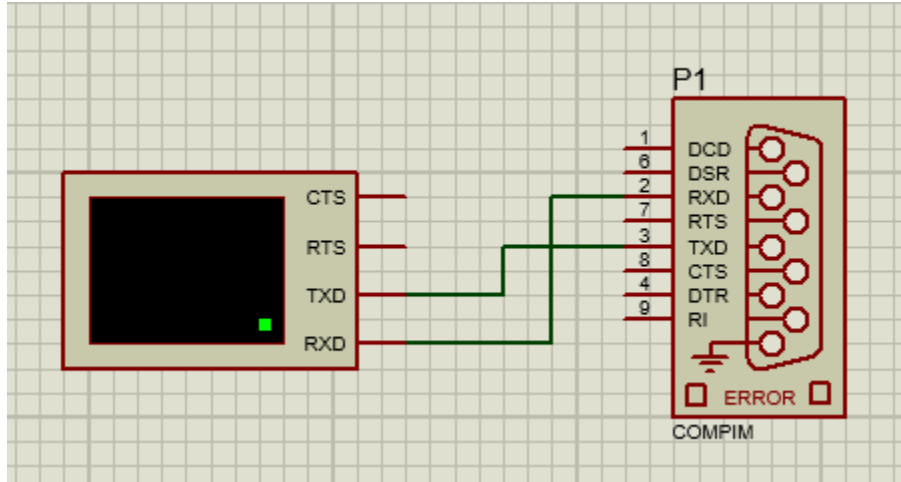
Packet View

The screenshot displays the 'Packet View' of the 'HHD Software Bridged Serial Port (COM1)' in the Device Monitoring Studio. The interface includes a menu bar (File, Edit, View, Sessions, Bridge, Tools, Window, Help) and a toolbar with various icons. The main window is divided into two panes: 'Request View (Legacy)' and 'MODBUS View (legacy)'. The 'Request View (Legacy)' pane shows a list of packets with columns for Ordinal, Time, Time Diff, Function, Direction, Status, and Data. The first packet (Ordinal 0) is a 'PnP Event (Connect)' with a 'DOWN' status. The 'MODBUS View (legacy)' pane shows a list of packets with columns for Ordinal, Time, Time Diff, Function, Direction, Status, and Data. The first packet (Ordinal 0) is a 'PnP Event (Connect)' with a 'DOWN' status. Below the packet lists, there is a 'Sessions' table with columns for Source, Type, Device, Processing, Start, Length, and State. The table is currently empty. On the right side, there is a 'MODBUS Send' dialog box with fields for Session, Mode (ASCII Mode), Address (0), Function (REQUESTS), and Result Length. The 'Selected Packet' is set to 'MODBUS Send'.

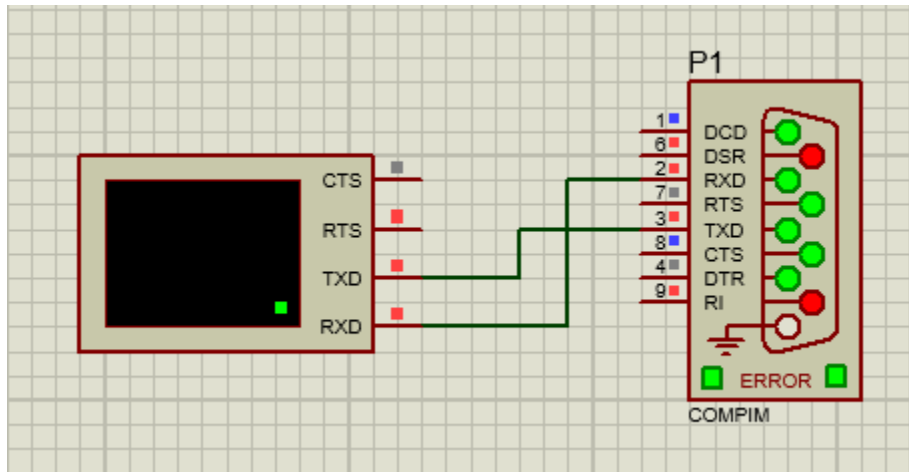
Part 2

I. The proteus setup

Before the simulation

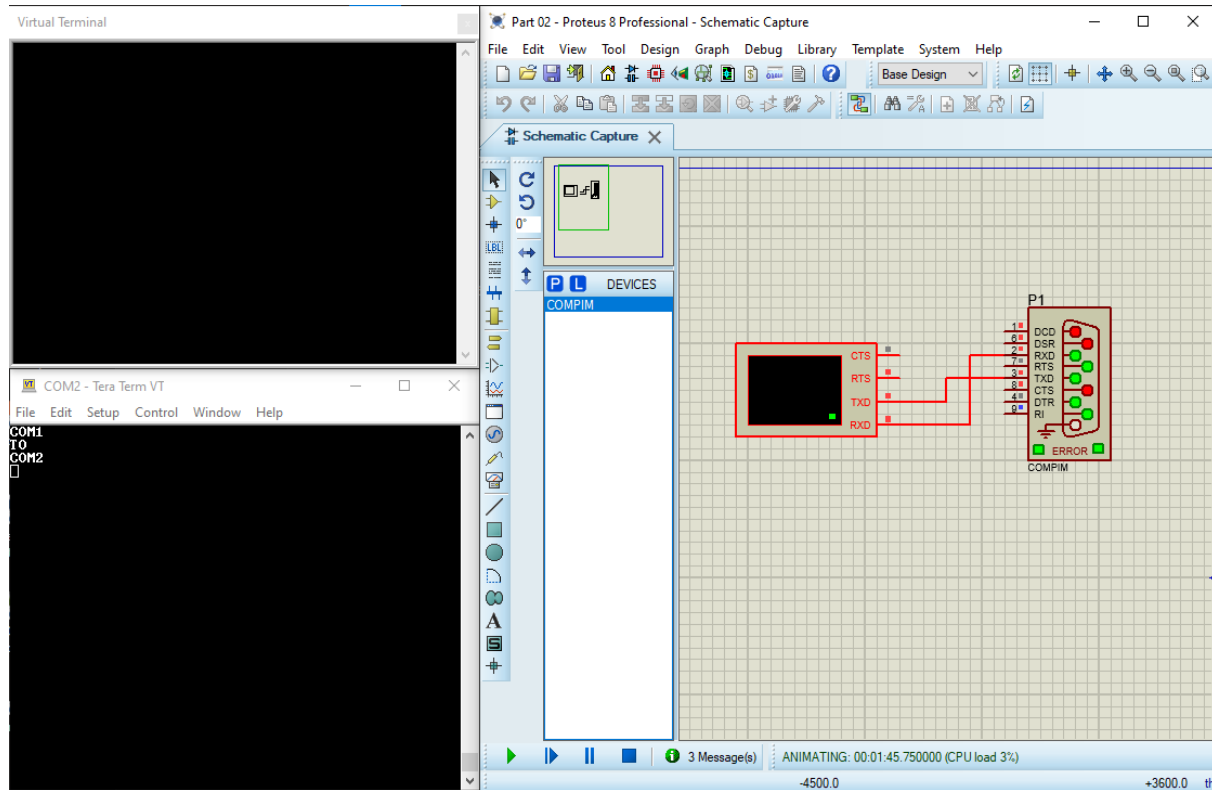


After the simulation

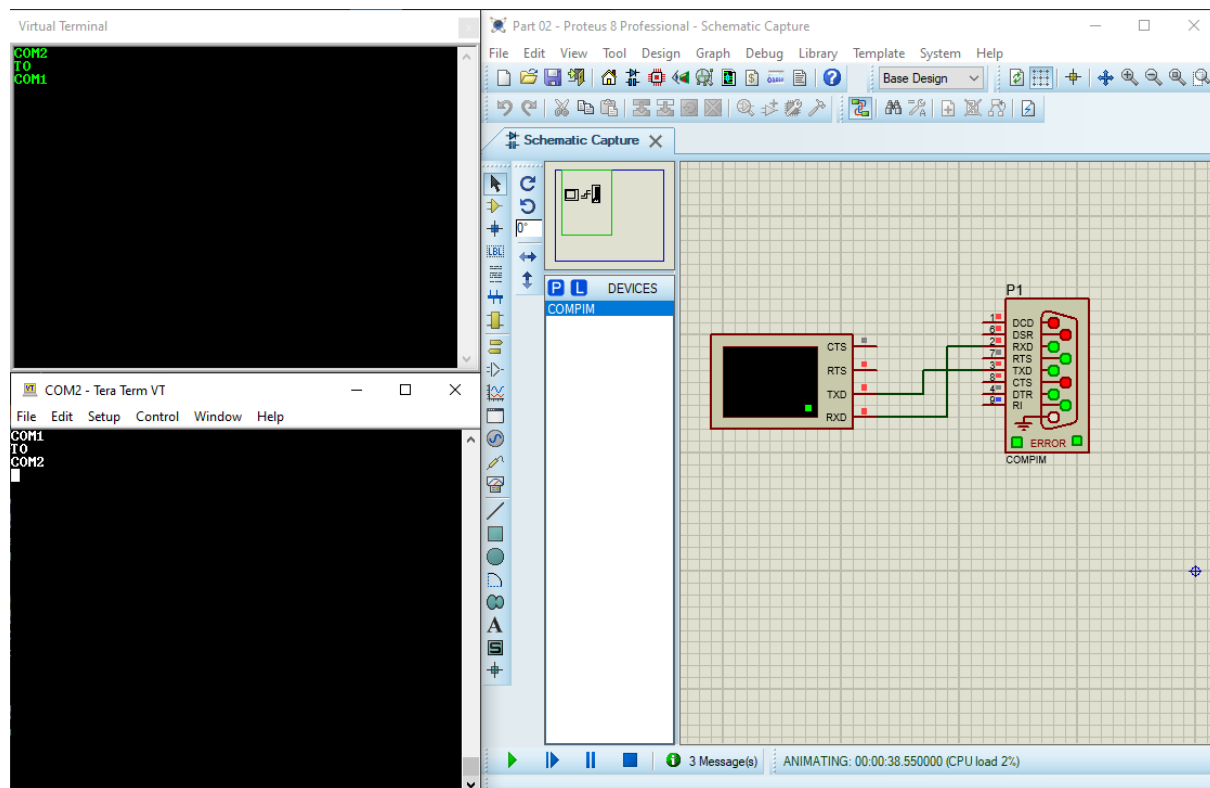


II. Serial data (text) transfer between two virtual ports performed with Tera Term terminal and virtual terminal in Proteus.

COM1 to COM2



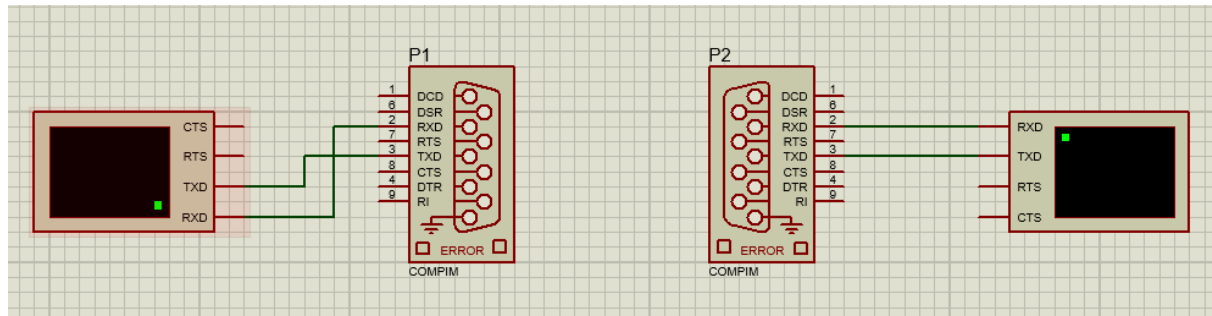
COM2 to COM1



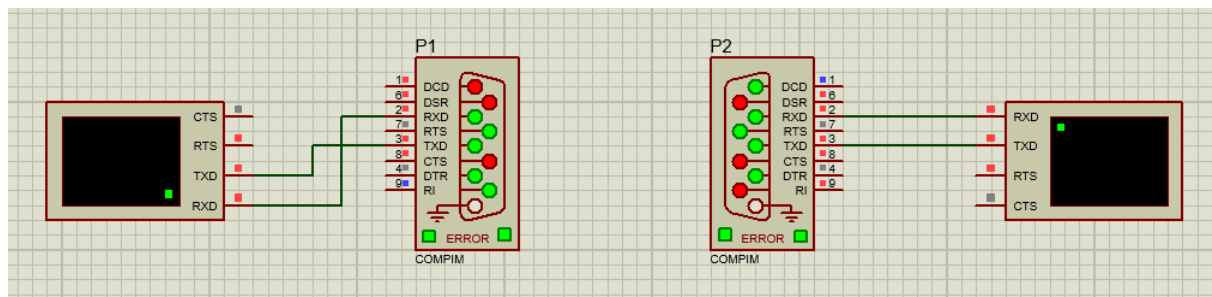
Part 3

I. The proteus setup

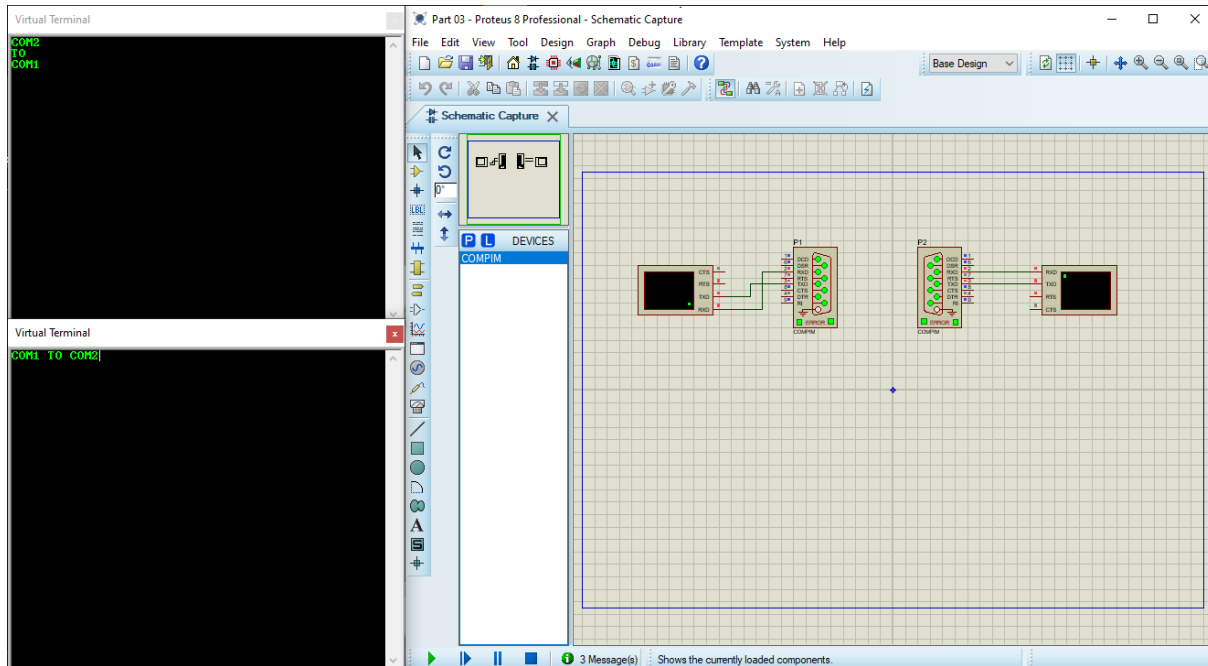
Before the simulation



After the simulation

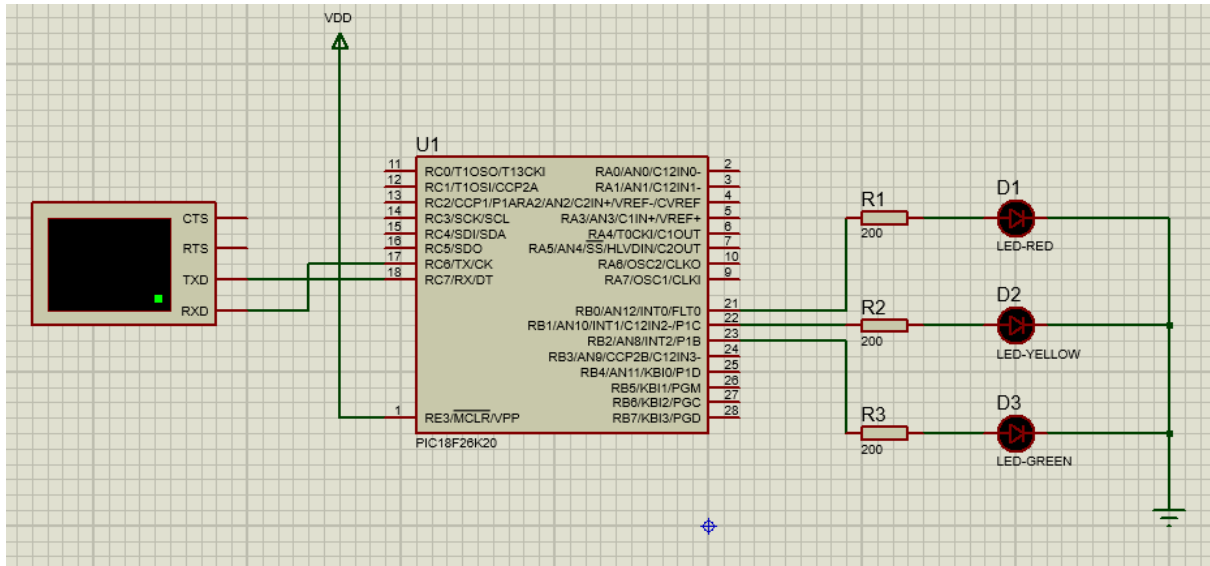


II. Serial data (text) transfer between two virtual ports performed with two virtual terminals in Proteus.



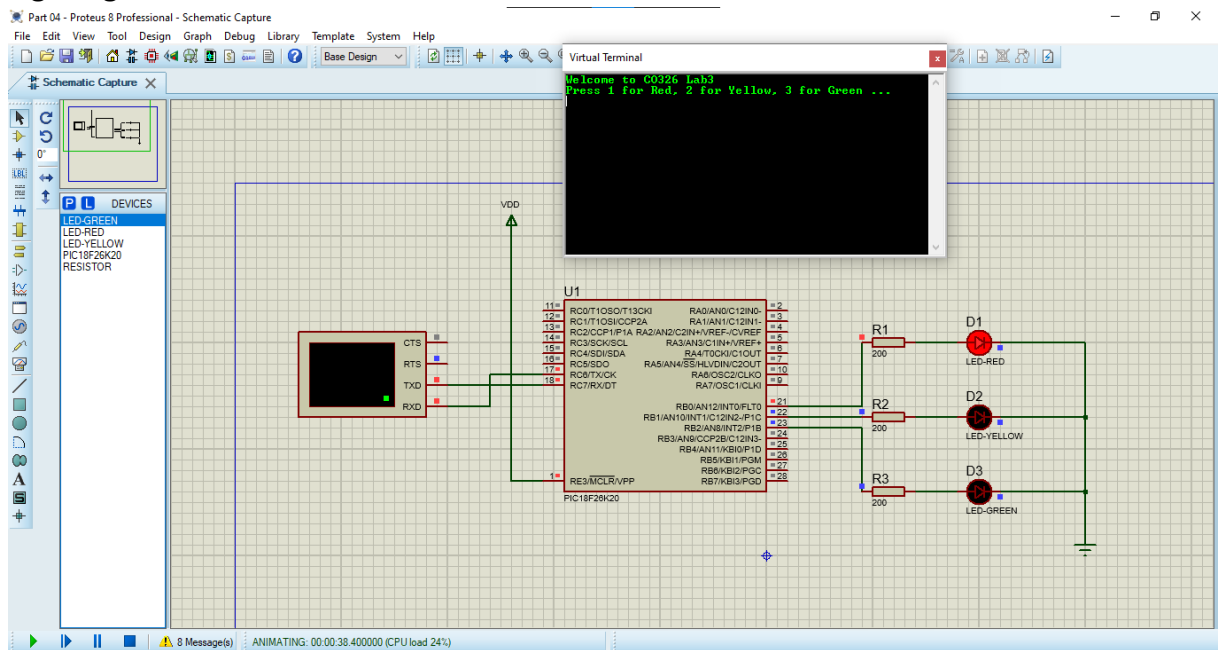
Part 4

I. The proteus setup

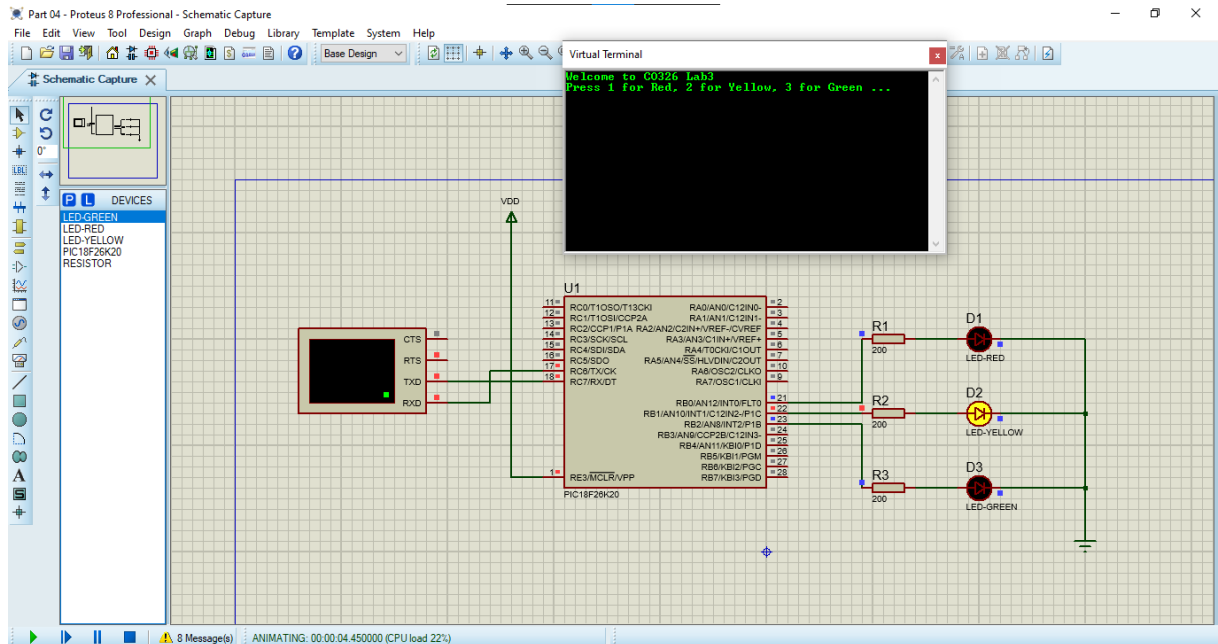


II. The proteus setup all stages LEDs (lighting, not lighting)

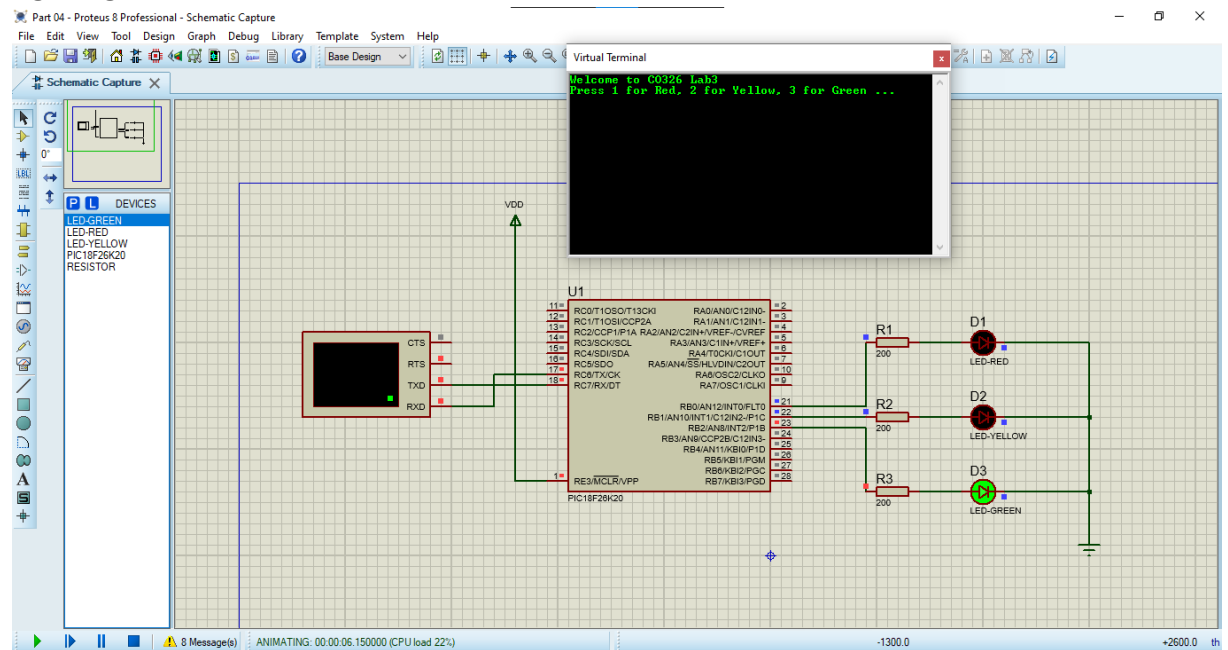
1. Lighting Red LED



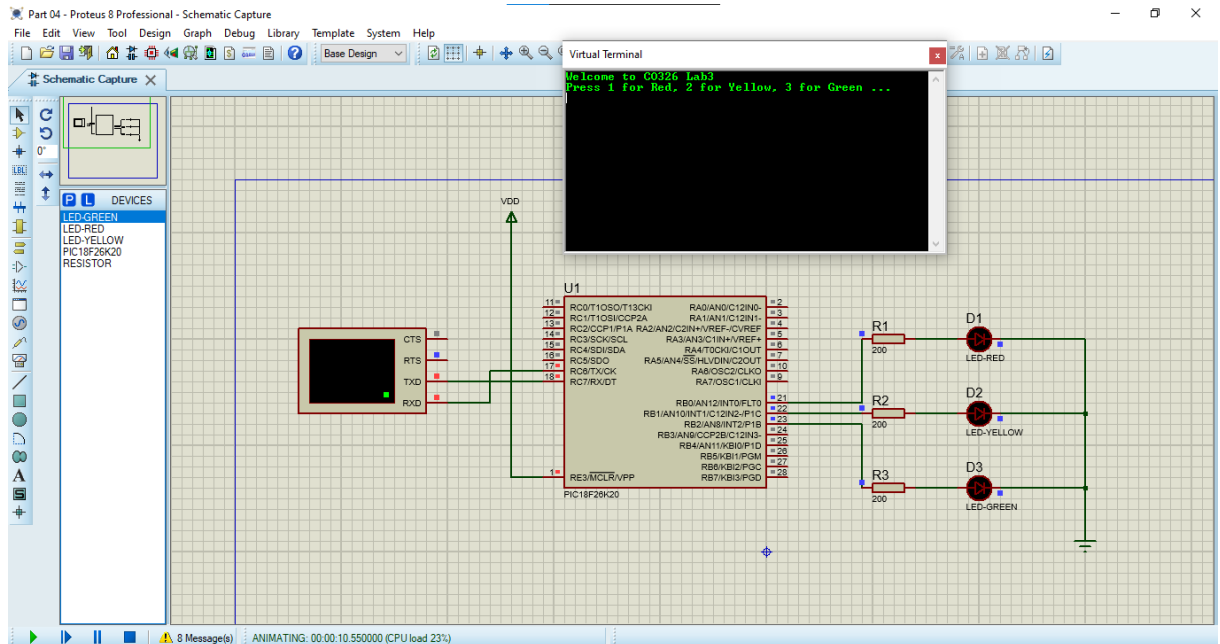
2. Lighting Yellow LED



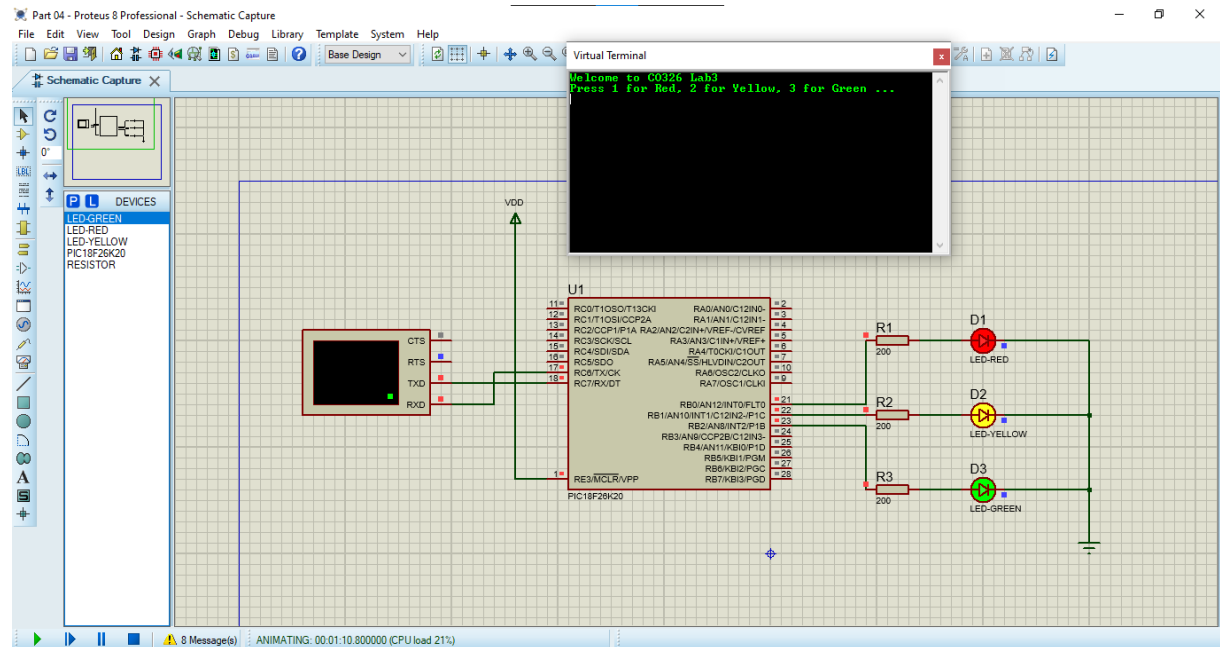
3. Lighting Green LED



4. All LEDs are off

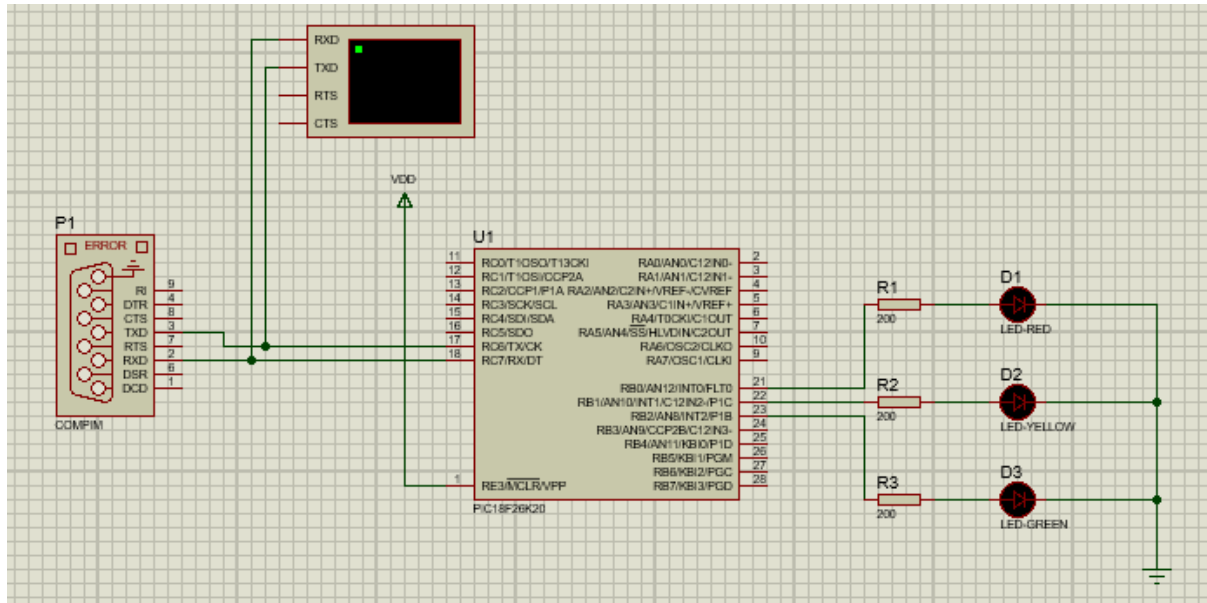


5. All LEDs are on



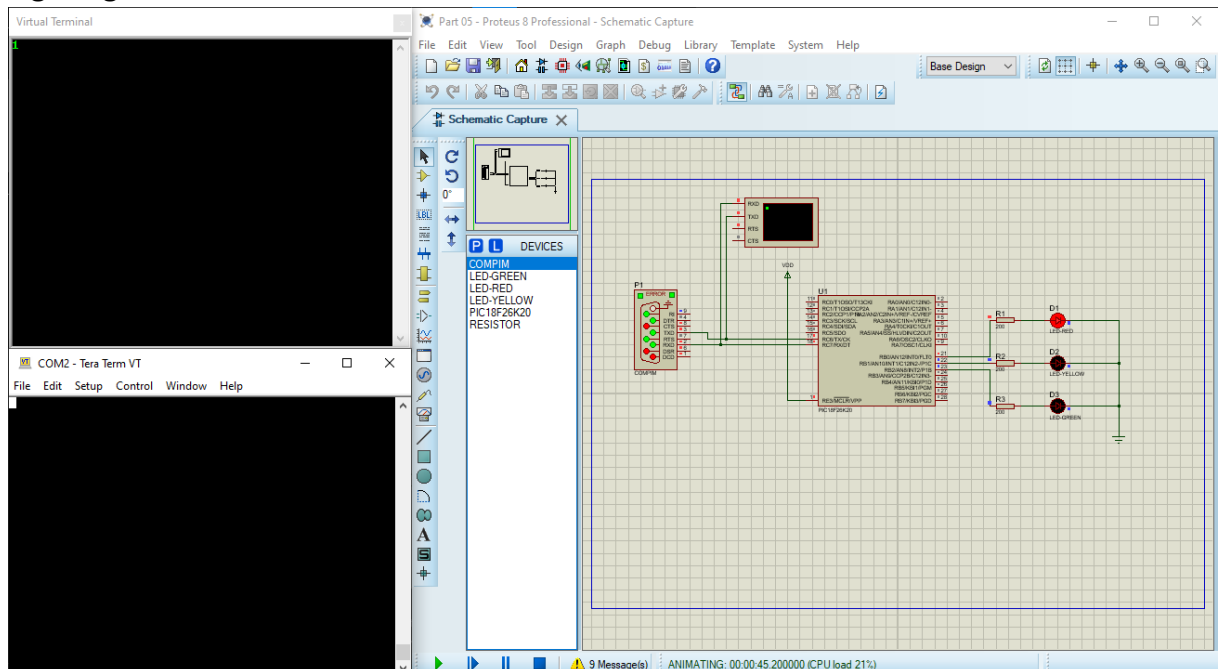
Part 5

I. The proteus setup

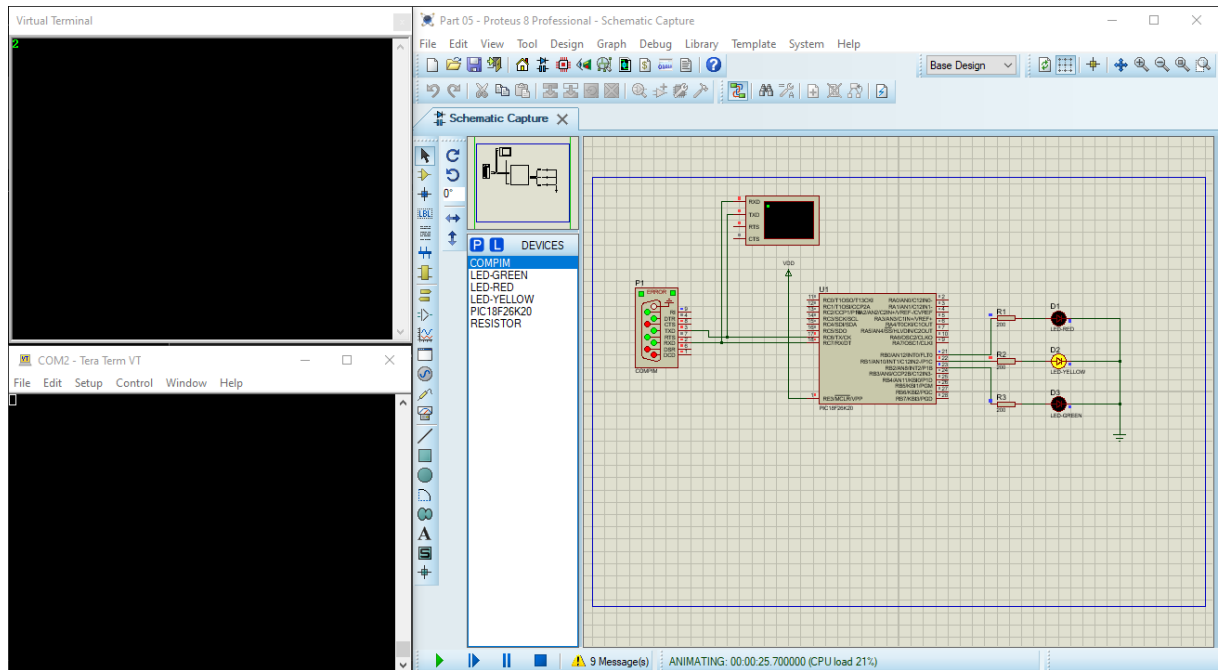


II. Serial data (text) transfer between two virtual ports performed with Tera Term terminal and virtual terminal in Proteus for all stages of LEDs.

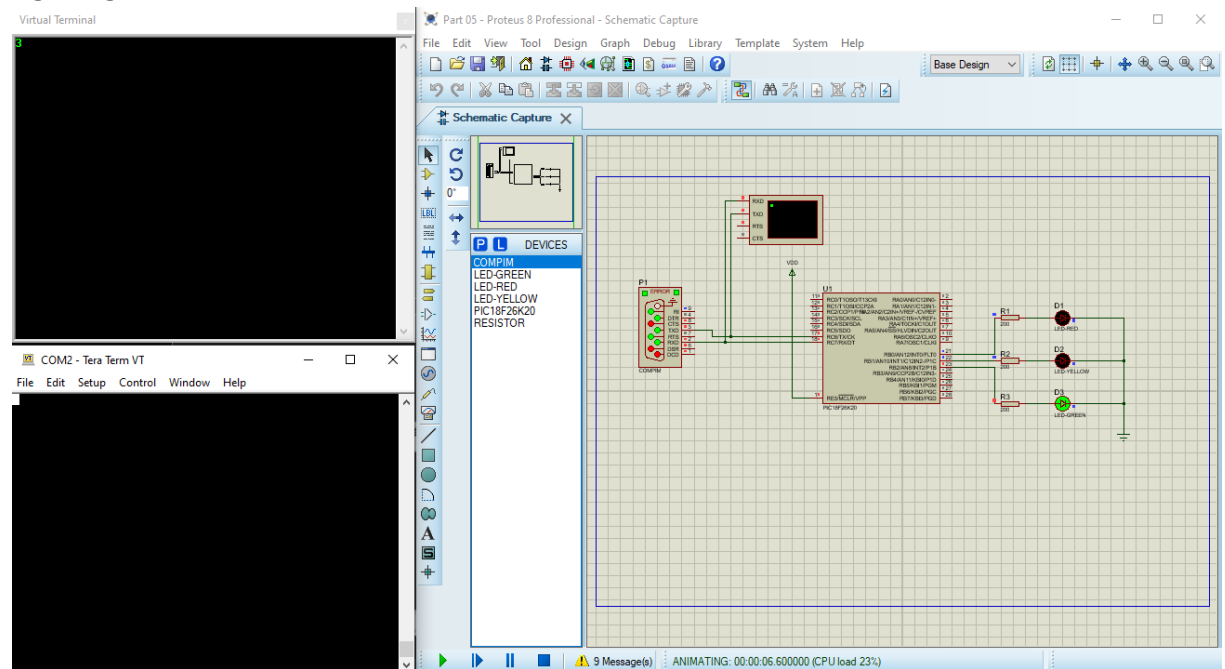
1. Lighting Red LED



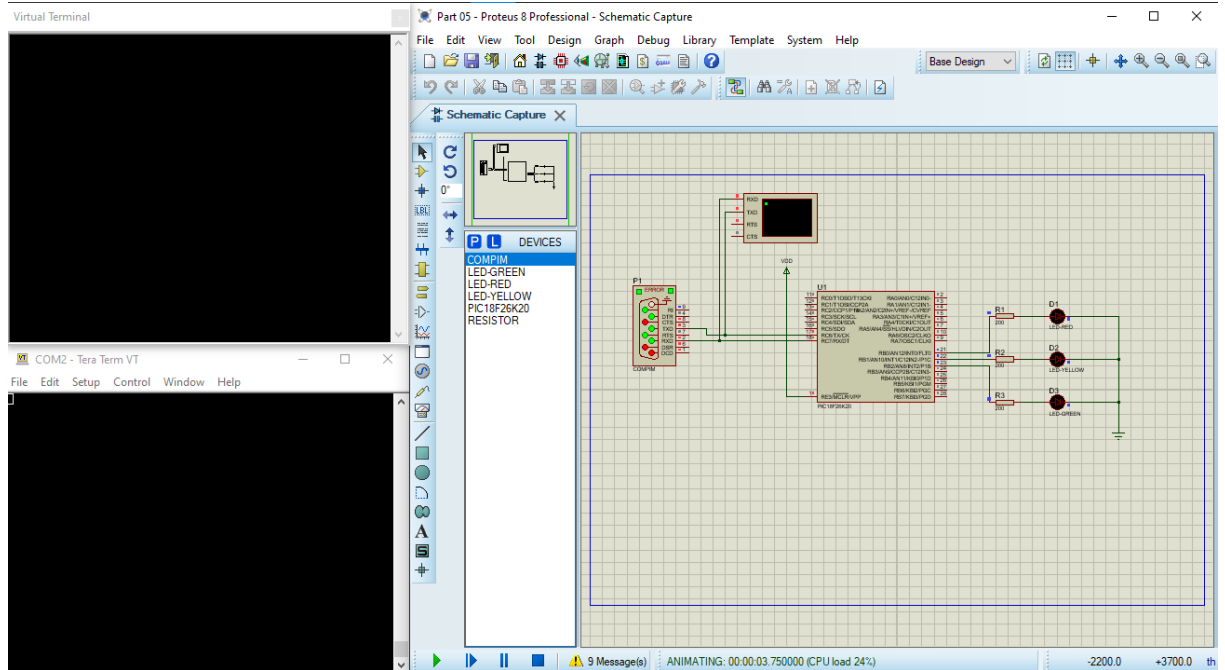
2. Lighting Yellow LED



3. Lighting Green LED



4. All LEDs are off



5. All LEDs are on

