Lab Exercise

Write an Embedded C program that receives commands through UART communication protocol to turn the LEDs on and off.

The commands are:

1. RedOn → Turn RED LED on
2. RedOff→ Turn RED LED off
3. GreenOn → Turn Green LED on
4. GreenOff → Turn Green LED off
5. BlueOn→ Turn Blue LED on
6. BlueOff→ Turn Blue LED off
7. Anything else turn all the LEDs off

Your code should support the following assumptions:

1. Any command that turns on a specified LED should not affect the other LEDs.
2. Anything is sent except those commands should reset all the LEDs (reset the only pins that are connected to LEDs).
3. Any command that turns off a specified LED should not affect the other LEDs.
4. The new command is completed by pressing Enter.

Lab Submission

Q2. Write Embedded C program that receives commands through UART communication protocol to do the following:

1. When sending “A”, all the LEDs are turned off and the Red LED is turned on after 1 minute.
2. When sending “B”, all the LEDs are turned off and the Blue LED is turned on after 0.5 minutes.
3. When sending “D”, all the LEDs are turned off and the Green LED is turned on after 2 minutes.

Upon starting the program, all the LEDS should be turned off.

Check through the simulated Kit that the behavior of your code is correct.