Countdown Timer

In your LCD-Keypad device, your second function will be a stopwatch timer. The LCD will display the number characters counting-up. The timer will fire by pressing the PORTF left switch. The stopwatch will be done by pressing the PORTF right switch. After stopping, the LCD will print the captured time value and the PORTF RED LED will blink for 5 seconds.
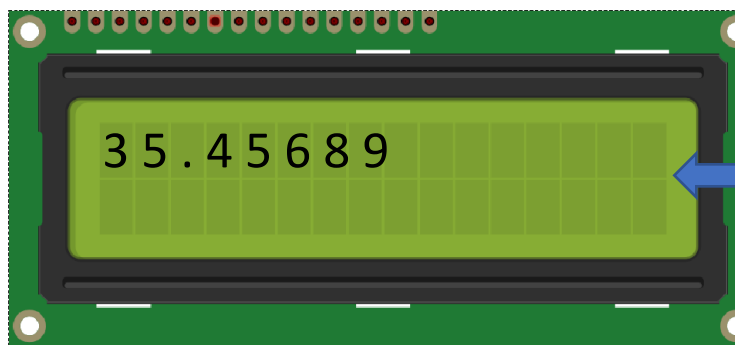
Hint:

Configure your 16 bits timer to overflow in 1 second. The resolution of the count will be 0.0000152587890625 second, since 65,536 counts makes a 1 second.

Assessment Criteria:

1- Multi-file project is a must.
2- Using GPTM Timer is a must.
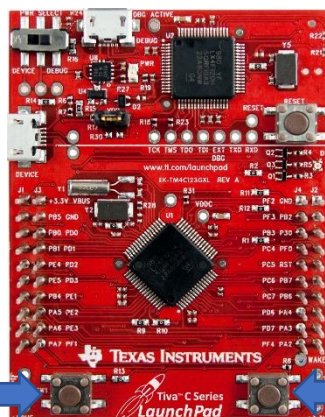3- Adding more features will be accounted as bonus.

In the Project Report:

1- Tabulate the functions you have created for the project with the developer name and the files names where the function is defined and prototyped.
2- The block diagram of your project indicating which ports and pins assigned for the connected pins.
3- Bonus features description if done.

Display the counting-up value in seconds with no decimals.

After the stopwatch button is pressed display the number of seconds counted decimal values counted by displaying the timer count register in seconds.

RED LED Blinks for 5 seconds after Stopwatch Done

Fire the timer

Stopwatch