Task 3

MBSD

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Deadline: 8am on 25/4/2022

A. Generate a signal on pin P1.1 having frequency equal to 10 Hz with a duty cycle of 10%.
B. When a user presses a button at P1.2 then frequency changes to 20Hz with a 20% duty cycle.
C. When a user again presses the same button then frequency changes to 40Hz with a duty cycle of 40%.
D. When a user again presses the same button then frequency changes to 80Hz with a duty cycle of 80%.
E. Show it on an oscilloscope.
F. Each time a user presses a button the signal toggles from case A to B, then B to C, then C to D and finally from D to A, on every subsequent button press.
G. Program only in C.
H. Use **Timers** to generate delays.
I. Button press means, press and release. Press doesn't mean you have to keep the button pressed without releasing it.
J. Use only Proteus.