Derivation of initial value for 50ms using TIMER0

XTAL = 16MHz → T_{xtal_clock} = 1/16 us

Prescaler = 1:64 → $T_{counter\_clock}$ = 64 x (1/16) us

= 4us

Increment count = 50000us / 4us

= 12500

Take 250 as the count

Number of iterations = 12500/250

= 25

Initial counter value = 256 – 250

= 6

Derivation of initial value for 500ms using TIMER1

XTAL = 16MHz → T_{xtal_clock} = 1/16 us

Prescaler = 1:256 → $T_{counter\_clock}$ = 256 x (1/16) us = 16us

Increment count = 500000us / 16us

= 31250

Intial counter value = 65536 – 31250

= 34286