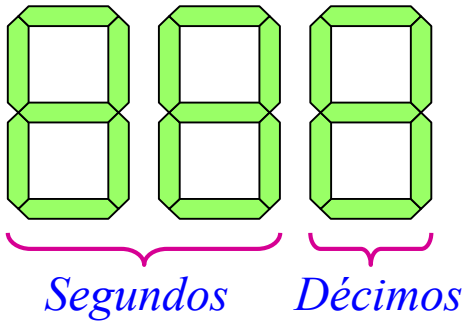
**Implementar um contador de 3 dígitos, através de três displays de 7 segmentos.**

**O contador deverá ser incrementado a cada décimo de segundo.**




**A temporização deverá ser feita através do *Timer0_A*.**

**Frequência do *DCO* = 1MHz**

## Incremento do contador em décimos de segundo:

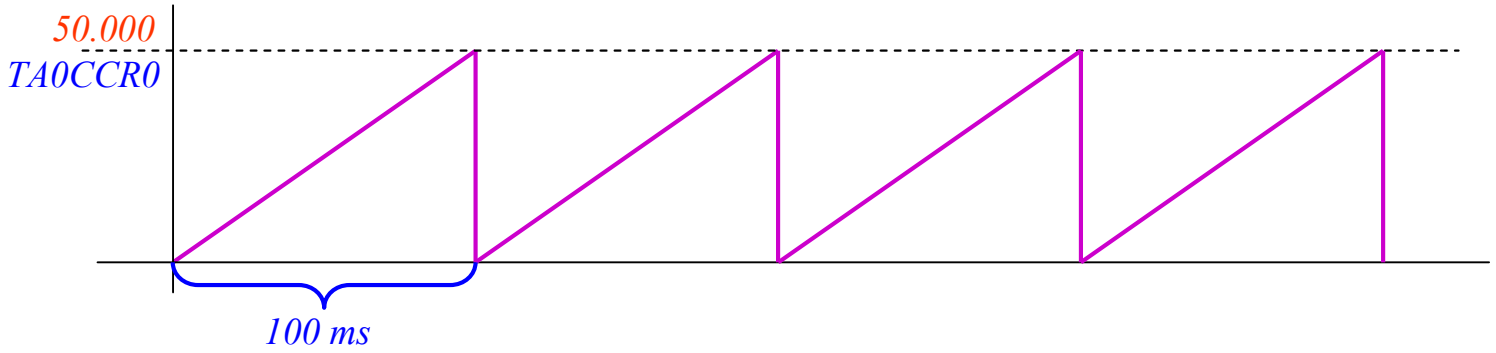
$T$ = 0,1 s = 100 ms

$f_{osc}$ = 1 MHz

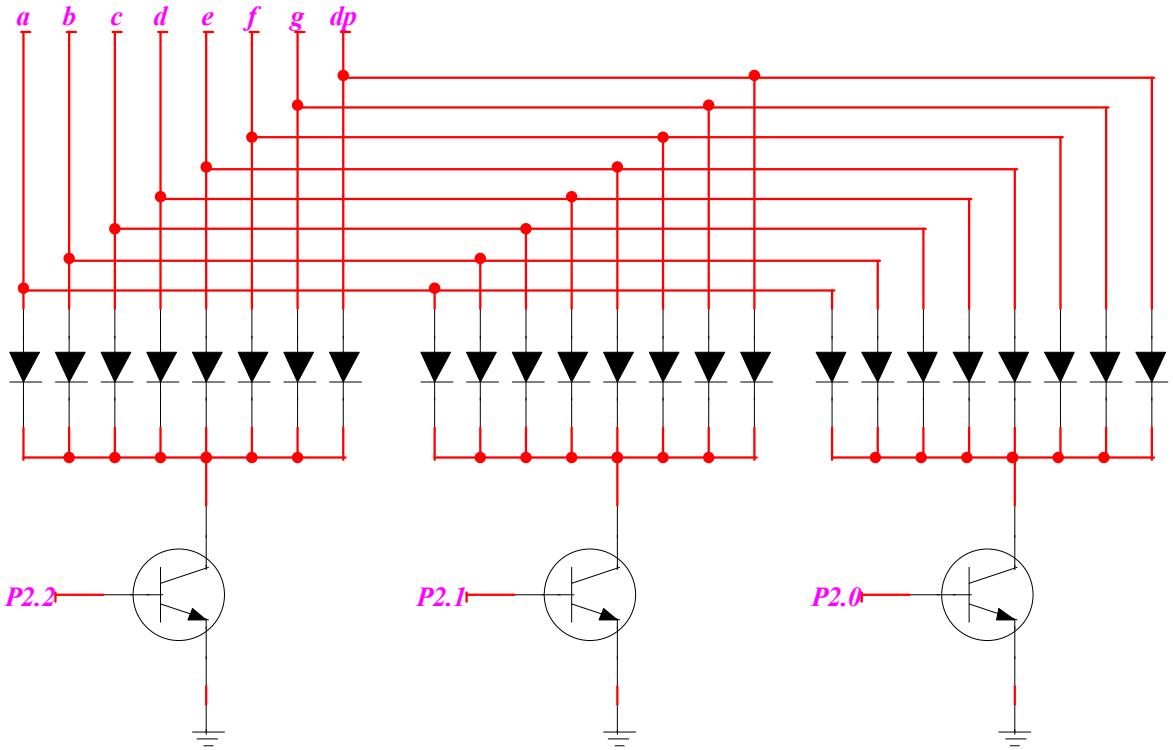
***Timer0_A deverá contar 100.000 ciclos***

***Pré-Scaler = 1:2***

***TA0CCR0 = 50.000***

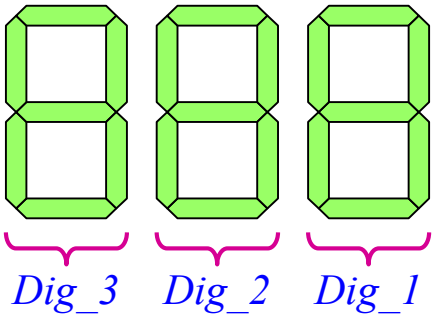


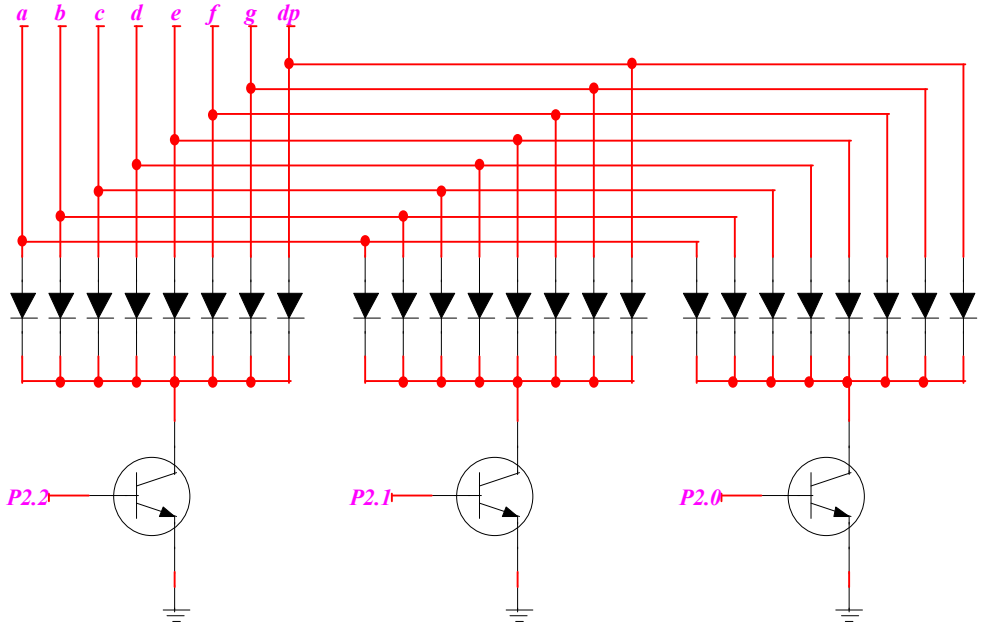
## Configuração dos LEDs (Catodo Comum)

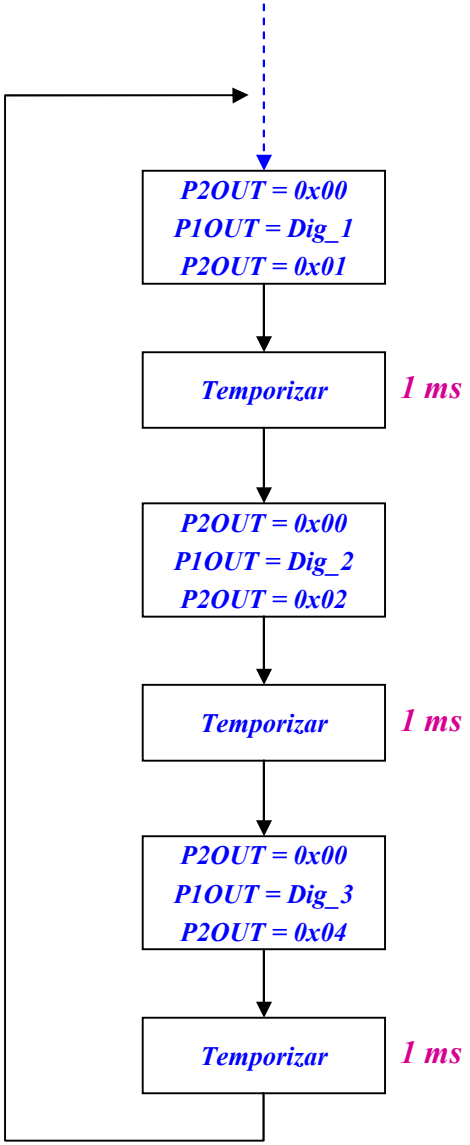



***Leds:***

***a = P1.0***
***b = P1.1***
***c = P1.2***
***d = P1.3***
***e = P1.4***
***f = P1.5***
***g = P1.6***


Dig_3
Dig_2
Dig_1


a
b
c
d
e
f
g
dp
P2.2
P2.1
P2.0

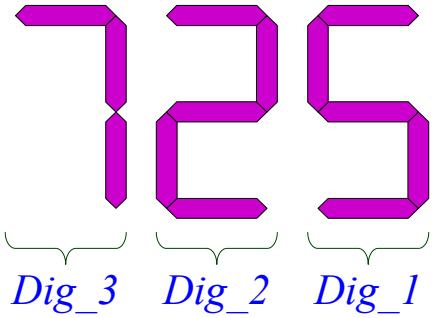

P2OUT = 0x00
P1OUT = Dig_1
P2OUT = 0x01
Temporizar
1 ms
P2OUT = 0x00
P1OUT = Dig_2
P2OUT = 0x02
Temporizar
1 ms
P2OUT = 0x00
P1OUT = Dig_3
P2OUT = 0x04
Temporizar
1 ms

```
int       contador = 0;

          #pragma     vector = TIMER0_A0_VECTOR
          __interrupt  void  interr_T0_A (void)
             {
             contador = contador + 1;
             }
```

*Contador:* 0000001011010101 → 725

*Binário*



***Conversão para decimal:***

***contador:*** **0000001011010101** → **725**

***n = contador***

***n = n / 10*** *Resto da divisão* → ***Dig_1***

***n = n / 10*** *Resto da divisão* → ***Dig_2***

***n = n / 10*** *Resto da divisão* → ***Dig_3***

```
char    dig_1 = 0;
char    dig_2 = 0;
char    dig_3 = 0;
```