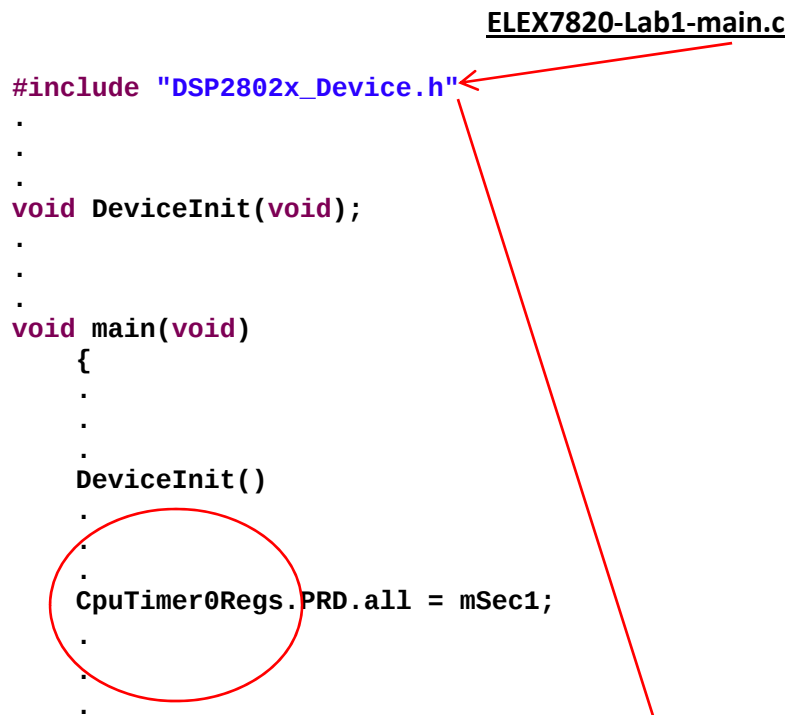


Peripheral Structure Hierarchy - e.g. CpuTimer0

ELEX7820-Lab1-main.c

```
#include "DSP2802x_Device.h"
.
.
.
void DeviceInit(void);
.
.
.
void main(void)
{
.
.
.
DeviceInit()
.
.
.
CpuTimer0Regs.PRD.all = mSec1;
.
.
.
}
```



DSP28027x_device.h

```
#include "DSP2802x_CpuTimers.h"
.
.
.
```

ELEX7820-Lab1-DevInit.c

```
#include "DSP2802x_Device.h"
.
.
.
void DeviceInit(void);
.
.
.
void DeviceInit(void)
{
.
.
.
}
```

DSP2802x CpuTimers.h

```

.
.
.
struct TCR_BITS          // bits description
{
    Uint16    rsvd1:4;    // 3:0    reserved
    Uint16    TSS:1;      // 4      Timer Start/Stop
    Uint16    TRB:1;      // 5      Timer reload
    Uint16    rsvd2:4;    // 9:6    reserved
    Uint16    SOFT:1;     // 10     Emulation modes
    Uint16    FREE:1;     // 11
    Uint16    rsvd3:2;    // 12:13  reserved
    Uint16    TIE:1;      // 14     Output enable
    Uint16    TIF:1;      // 15     Interrupt flag
};

union TCR_REG
{
    Uint16    all;
    struct TCR_BITS bit;
};

.
.
.
struct PRD_REG
{
    Uint16    LSW;
    Uint16    MSW;
};

union PRD_GROUP
{
    Uint32    all;
    struct PRD_REG half;
};

.
.
.
// CPU Timer Register File:
struct CPUTIMER_REGS
{
    union TIM_GROUP TIM;    // Timer counter register
    union PRD_GROUP PRD;    // Period register
    union TCR_REG TCR;      // Timer control register
    Uint16    rsvd1;        // reserved
    union TPR_REG TPR;      // Timer pre-scale low
    union TPRH_REG TPRH;    // Timer pre-scale high
};

.
.
.
extern volatile struct CPUTIMER_REGS CpuTimer0Regs;

```