#define RCC\_APB2ENR (\*((volatile unsigned long\*) 0x40021018))

#define RCC\_APB1ENR (\*((volatile unsigned long\*) 0x4002101C))

#define GPIOA\_CRL (\*((volatile unsigned long\*) 0x40010800))

#define GPIOA\_BSRR (\*((volatile unsigned long\*) 0x40010810))

#define TIM2\_CR1 (\*((volatile unsigned long\*) 0x40000000))

#define TIM2\_CNT (\*((volatile unsigned long\*) 0x40000024))

#define TIM2\_PSC (\*((volatile unsigned long\*) 0x40000028))

#define TIM2\_ARR (\*((volatile unsigned long\*) 0x4000002C))

#define TIM2\_SR (\*((volatile unsigned long\*) 0x40000010))

void Cyclic\_Start(const unsigned short PERIOD)

{

RCC\_APB1ENR |= 0x00000001;

TIM2\_CR1 =0;

TIM2\_CNT =0;

if(PERIOD >1)

{

TIM2\_PSC = 7999;

TIM2\_ARR = (PERIOD-1);

}

else

{

TIM2\_PSC =799;

TIM2\_ARR = 9;

}

TIM2\_CR1 =0x001;

}

void Cyclic\_Wait(void)

{

while((TIM2\_SR & 0x00000001) == 0)

{

}

TIM2\_SR = 0;

}

void LED\_Init(void)

{

RCC\_APB2ENR |= 0x00000004; GPIOA\_CRL &= 0xFFFFFF0F;

GPIOA\_CRL |= 0x00000020;

}

void LED\_On(void)

{

GPIOA\_BSRR = 0x00000002;

}

void LED\_Off(void)

{

GPIOA\_BSRR = 0x00020000;

}

void LED\_Toggle(void)

{

static unsigned char LED\_state = 0;

if (LED\_state == 0)

{

LED\_state = 1;

LED\_On();

}

else

{

LED\_state =0;

LED\_Off();

}

}

int main(void)

{

LED\_Init();

Cyclic\_Start(150);

while(1)

{

LED\_Toggle();

Cyclic\_Wait();

}

return (1);

}

void SystemInit(void)

{

}