

Slovenská technická univerzita
Fakulta elektrotechniky a informatiky

VNORENÉ SYSTÉMY

Práca s GPIO registrami

Úloha 1

// nastavenie periferie

```
RCC_AHBPeriphClockCmd(RCC_AHBPeriph_GPIOA, ENABLE);
```

```
GPIOA->MODER |= (uint32_t)((0b01)<<(5*2));
```

```
GPIOA->OTYPER &= ~(0b1)<<5);
```

```
GPIOA->PUPDR |= (uint32_t)((0b01)<<(5*2));
```

```
GPIOA->OSPEEDR |= (uint32_t)((0b11)<<(5*2));
```

Modules

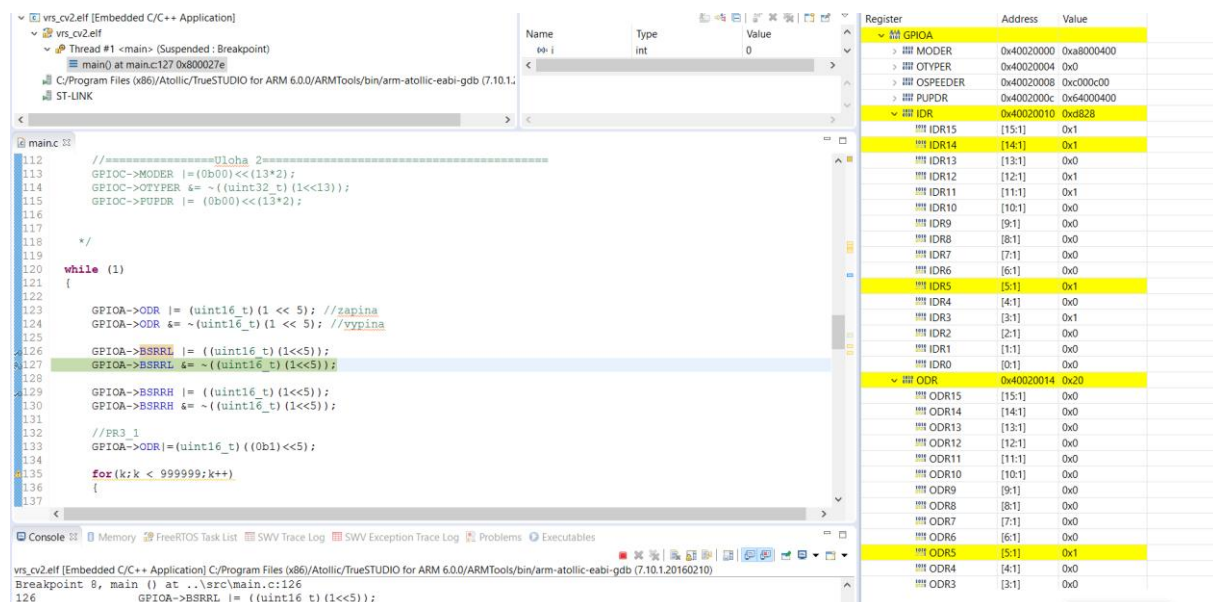
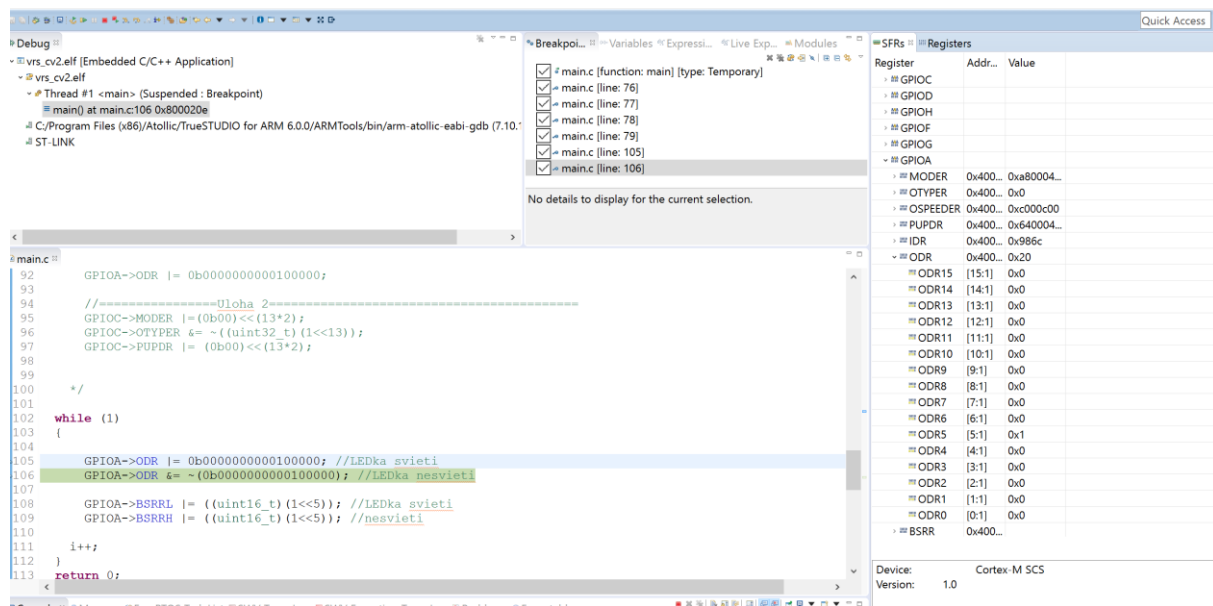
SFRs Registers

X16 X10 X2

Register	Addr...	Value
> GPIOF		
> GPIOG		
> GPIOA		
> MODER	0x400...	0xa80004...
> OTYPER	0x400...	0x0
> OSPEEDER	0x400...	0xc000c00
> PUPDR	0x400...	0x640004...
> IDR	0x400...	0x980c
> ODR	0x400...	0x0
ODR15	[15:1]	0x0
ODR14	[14:1]	0x0
ODR13	[13:1]	0x0
ODR12	[12:1]	0x0
ODR11	[11:1]	0x0
ODR10	[10:1]	0x0
ODR9	[9:1]	0x0
ODR8	[8:1]	0x0
ODR7	[7:1]	0x0
ODR6	[6:1]	0x0
ODR5	[5:1]	0x0
ODR4	[4:1]	0x0
ODR3	[3:1]	0x0
ODR2	[2:1]	0x0
ODR1	[1:1]	0x0
ODR0	[0:1]	0x0
> BSRR	0x400...	
> LCKR	0x400...	0x0
> AFRL	0x400...	0x0
> AFRH	0x400...	0x0

MSB 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 LSB

Register: ODR
Address: 0x40020014
Value: 0
Size: 32
Reset value: 0x00000000
Reset mask: 0xFFFFFFFF



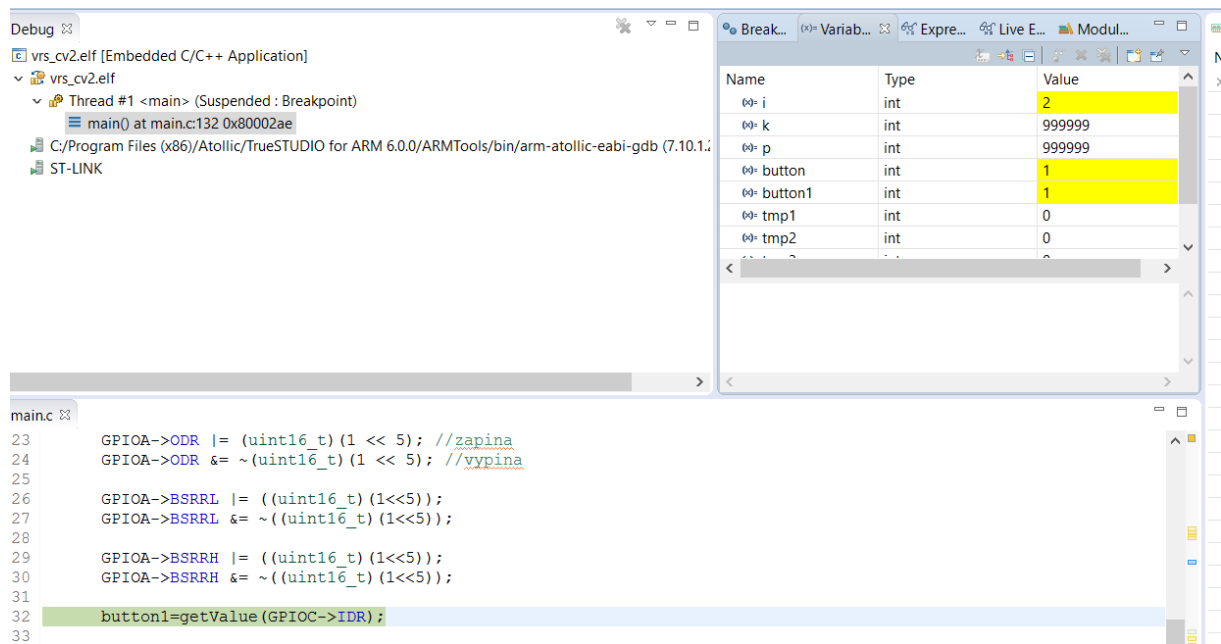
Úloha 2

button1 reprezentuje hodnotu tlačidla.

```
RCC_AHBPeriphClockCmd(RCC_AHBPeriph_GPIOC, ENABLE);
```

```
GPIOC->MODER &= ~( (0b11)<<(13*2) );
GPIOC->OTYPER &= ~( (0b1)<<13 );
GPIOC->PUPDR &= ~( (0b11)<<(13*2) );
```

```
button=getValue(GPIOC->IDR);
```



Úloha 3

Blikanie LED v intervale v nekonecnom while cykle.

```

GPIOA->ODR|=(uint16_t) ((0b1)<<5);

for(k;k < 999999;k++) {}
GPIOA->ODR&= ~((uint16_t) ((0b1)<<5));
for(p;p < 999999 ;p++){

```

Sledovanie tlacidla a zapinanie/vypinanie LED v nekonecnom while cykle.

```

button=getValue(GPIOC->IDR);
    if(button==1)
        GPIOA->ODR |= (uint16_t) (0b1<<5);
    else
        GPIOA->ODR &= ~((uint16_t) (0b1<<5));

```

Po stlaceni tlacidla LED zmeni stav.

```

button1=getValue(GPIOC->IDR);
if (button1 == 1)
{
    while(counter < 6)
    {
        counter++; //5 "impulzov"
    }
    counter = 0;
}
button1=getValue(GPIOC->IDR);

```

```

if (button1 == 0)
{
    while(counter < 6)
    {
        counter++; //5 "impulzov"
    }
    counter = 0;
}
button1=getValue(GPIOC->IDR);
if (button1 == 1)
{
    while(counter < 6)
    {
        counter++; //5 "impulzov"

    }
    counter = 0;
    if(tmp1 == 0)
    {
        GPIOA->ODR |=(uint16_t) (0b1<<5);
        tmp1 = 1;
    }
    else if(tmp1 == 1)
    {
        GPIOA->ODR &= ~(uint16_t) (0b1<<5);
        tmp1 = 0;
    }
}

```