**SLOVENKÁ TECHNICKÁ UNIVERZITA V BRATISLAVE**

**FAKULTA ELEKTROTECHNIKY A INFORMATIKY**

**Vnorene systémy**

Práca so štandardnou periférnou knižnicou

Cvičenie o 13.00

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# Vypracovanie

## Úloha 1.

- Nastavenie príslušnej periférie a jej porty.

RCC\_AHBPeriphClockCmd(RCC\_AHBPeriph\_GPIOA, *ENABLE*);

GPIO\_InitTypeDef gpioInitStruc;

gpioInitStruc.GPIO\_Mode = *GPIO\_Mode\_OUT*;

gpioInitStruc.GPIO\_OType = *GPIO\_OType\_PP*;

gpioInitStruc.GPIO\_Pin = GPIO\_Pin\_5;

gpioInitStruc.GPIO\_Speed = *GPIO\_Speed\_400KHz*;

GPIO\_Init(GPIOA, &gpioInitStruc);

GPIO\_SetBits(GPIOA, GPIO\_Pin\_5);

## Úloha 2.

Nastavenie príslušnej periférie pinu PC13 na ktoré je pripojené tlačítko a snímanie jeho stavu.

RCC\_AHBPeriphClockCmd(RCC\_AHBPeriph\_GPIOA, *ENABLE*);

RCC\_AHBPeriphClockCmd(RCC\_AHBPeriph\_GPIOC, *ENABLE*);

GPIO\_InitTypeDef gpioInitStruc;

gpioInitStruc.GPIO\_Mode = *GPIO\_Mode\_OUT*;

gpioInitStruc.GPIO\_OType = *GPIO\_OType\_PP*;

gpioInitStruc.GPIO\_Pin = GPIO\_Pin\_5;

gpioInitStruc.GPIO\_Speed = *GPIO\_Speed\_400KHz*;

GPIO\_Init(GPIOA, &gpioInitStruc);

gpioInitStruc.GPIO\_Mode = *GPIO\_Mode\_IN*;

gpioInitStruc.GPIO\_PuPd = *GPIO\_PuPd\_UP*;

gpioInitStruc.GPIO\_Pin = GPIO\_Pin\_13;

gpioInitStruc.GPIO\_Speed = *GPIO\_Speed\_40MHz*;

GPIO\_Init(GPIOC, &gpioInitStruc);

uint8\_t buttonState = GPIO\_ReadInputDataBit(GPIOC, GPIO\_Pin\_13);

GPIO\_ResetBits(GPIOA, GPIO\_Pin\_5);

## Úloha 3.

1. **Blikanie LED v intervale**

GPIO\_SetBits(GPIOA, GPIO\_Pin\_5);

**for** (**int** j;j<999999;j++) {}

GPIO\_ResetBits(GPIOA, GPIO\_Pin\_5);

**for** (**int** j;j<999999;j++) {}

1. **Sledovanie stavu tlačítka a zobrazovanie na LED**

buttonState = GPIO\_ReadInputDataBit(GPIOC, GPIO\_Pin\_13);

**if** (buttonState == 0) {

GPIO\_SetBits(GPIOA, GPIO\_Pin\_5);

} **else** **if** (buttonState == 1) {

GPIO\_ResetBits(GPIOA, GPIO\_Pin\_5);

}

1. **Po stlačení tlačidla LED zmení stav.**

buttonState = GPIO\_ReadInputDataBit(GPIOC, GPIO\_Pin\_13);

**if** (buttonState == 1) {

**while**(counter < time) {

counter++;

}

counter = 0;

buttonState = GPIO\_ReadInputDataBit(GPIOC, GPIO\_Pin\_13);

**if** (buttonState == 0) {

**while**(counter < time) {

counter++;

}

counter = 0;

buttonState = GPIO\_ReadInputDataBit(GPIOC, GPIO\_Pin\_13);

**if** (buttonState == 1) {

**while**(counter < time) {

counter++;

}

counter = 0;

**if**(tmp1 == 0){

GPIO\_SetBits(GPIOA, GPIO\_Pin\_5);

tmp1 = 1;

} **else** **if**(tmp1 == 1) {

GPIO\_ResetBits(GPIOA, GPIO\_Pin\_5);

tmp1 = 0;

}

}

}

}