lab5_SPI

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Contents

Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

Chapter 2

File Documentation

2.1 configuration_bits.c File Reference

2.2 main.c File Reference

```
#include <stdint.h>
#include <stdbool.h>
#include <time.h>
#include "user.h"
```

Functions

- int32_t main (void)

  Bulls and Cows game.

2.2.1 Function Documentation

2.2.1.1 main()

```
int32_t main (
            void  )
```

Bulls and Cows game.

the main program generate 4 random numbers, after that start to speak with player trough UART. Player enter 4 numbers too, if player trying to input NaN, programm tell him or her about error and number need to enter again. After that programm checks if random array and player array has the same numbers, count of cows will be increment, if this numbers has the same indexes, count of cows will be increment

2.3 user.c File Reference

```
#include <stdint.h>
#include <stdbool.h>
#include "user.h"
#include <sys/attribs.h>
```

Functions

- void DelayMs (int t)

  Delay function.
- void InitGPIO (void)

  This function is using for setting buttons on I/O shield.
- void InitApp (void)

  This function is using for setting all used devices.
- int32_t SetNum ()

  This function is using for chhose a number for game.

2.3.1 Function Documentation

2.3.1.1 DelayMs()

```
void DelayMs (
            int t )
```

Delay function.

This function is using for delay between operations

Parameters

in	*delay*	in ms

Returns

NONE

2.3.1.2 InitApp()

```
void InitApp (
            void  )
```

This function is using for setting all used devices.

This function is using for setting all used devices

Parameters

NONE	

Returns

NONE

2.3.1.3 InitGPIO()

```
void InitGPIO (
            void  )
```

This function is using for setting buttons on I/O shield.

This function is using for setting all used devices

Parameters

NONE	

Returns

NONE

2.3.1.4 SetNum()

```
int32_t SetNum (
            void  )
```

This function is using for chhose a number for game.

This function is using for chhose a number for game

Parameters

out	*integer*	number from 0 to 9

Returns

integer number from 0 to 9

2.4 user.h File Reference

```
#include <stdint.h>
```

Macros

- #define BTN1_PORT_BIT PORTAbits.RA3

  Define name for BTN1 on I/O shield.
- #define BTN2_PORT_BIT PORTDbits.RD5

  Define name for BTN2 on I/O shield.
- #define BTN3_PORT_BIT PORTFbits.RF1

  Define name for BTN3 on I/O shield.

Functions

- void InitApp (void)

  This function is using for setting all used devices.
- void DelayMs (int t)

  Delay function.
- int32_t SetNum (void)

  This function is using for chhose a number for game.

2.4.1 Macro Definition Documentation

2.4.1.1 BTN1_PORT_BIT

```
#define BTN1_PORT_BIT PORTAbits.RA3
```

Define name for BTN1 on I/O shield.

2.4.1.2 BTN2_PORT_BIT

```
#define BTN2_PORT_BIT PORTDbits.RD5
```

Define name for BTN2 on I/O shield.

2.4.1.3 BTN3_PORT_BIT

```
#define BTN3_PORT_BIT PORTFbits.RF1
```

Define name for BTN3 on I/O shield.

2.4.2 Function Documentation

2.4.2.1 DelayMs()

```
void DelayMs (
            int t )
```

Delay function.

This function is using for delay between operations

Parameters

in	*delay*	in ms

Returns

NONE

2.4.2.2 InitApp()

```
void InitApp (
            void  )
```

This function is using for setting all used devices.

I/O and Peripheral Initialization

This function is using for setting all used devices

Parameters

NONE	

Returns

NONE

2.4.2.3 SetNum()

```
int32_t SetNum (
            void  )
```

This function is using for chhose a number for game.

function for choosing a number for game by buttons

This function is using for chhose a number for game

Parameters

out	*integer*	number from 0 to 9

Returns

integer number from 0 to 9

Index