/\* ###################################################################

\*\* Filename : main.c

\*\* Project : Lab5

\*\* Processor : MK20DN128VLH5

\*\* Version : Driver 01.01

\*\* Compiler : GNU C Compiler

\*\* Date/Time : 2019-08-29, 18:57, # CodeGen: 0

\*\* Abstract :

\*\* Main module.

\*\* This module contains user's application code.

\*\* Settings :

\*\* Contents :

\*\* No public methods

\*\*

\*\* ###################################################################\*/

/\*!

\*\* @file main.c

\*\* @version 01.01

\*\* @brief

\*\* Main module.

\*\* This module contains user's application code.

\*/

/\*!

\*\* @addtogroup main\_module main module documentation

\*\* @{

\*/

/\* MODULE main \*/

/\* Including needed modules to compile this module/procedure \*/

#include "Cpu.h"

#include "Events.h"

#include "Bit1.h"

#include "BitIoLdd1.h"

#include "Bit2.h"

#include "BitIoLdd2.h"

#include "AS1.h"

#include "ASerialLdd1.h"

#include "Pullup.h"

#include "BitIoLdd3.h"

#include "PWM1.h"

#include "PwmLdd1.h"

#include "TU1.h"

#include "PWM2.h"

#include "PwmLdd2.h"

/\* Including shared modules, which are used for whole project \*/

#include "PE\_Types.h"

#include "PE\_Error.h"

#include "PE\_Const.h"

#include "IO\_Map.h"

/\* User includes (#include below this line is not maintained by Processor Expert) \*/

#include "MK20D5.h"

#include "MK20D5\_simple.h"

#include <stdbool.h>

void send\_string(const char \*str)

{

unsigned int len, i; // a size\_t is an unsigned integer

len = strlen(str); // returns the number of chars in str

byte err;

for (i = 0; i < len; i++) {

// send this character

do {

err = AS1\_SendChar(str[i]);

} while (err != ERR\_OK);

}

}

/\*lint -save -e970 Disable MISRA rule (6.3) checking. \*/

int main(void)

/\*lint -restore Enable MISRA rule (6.3) checking. \*/

{

/\* Write your local variable definition here \*/

/\*\*\* Processor Expert internal initialization. DON'T REMOVE THIS CODE!!! \*\*\*/

PE\_low\_level\_init();

/\*\*\* End of Processor Expert internal initialization. \*\*\*/

/\* Write your code here \*/

/\* For example: for(;;) { } \*/

byte err;

char c;

bool pullup;

pullup=0;

int redratio;

int greenratio;

redratio = 0;

greenratio = 0;

PWM1\_SetRatio8(128);

PWM2\_SetRatio8(128);

PWM3\_SetRatio8(255);

for(;;) {

err = AS1\_RecvChar(&c);

if (err == ERR\_OK) {

if (c ==' ') {

if (pullup == 0){

PORTC\_GPCLR ^= 0b011;

pullup = 1;

send\_string("Pullup on\r\n");

}

else{

PORTC\_GPCLR ^= 0b001;

pullup = 0;

send\_string("Pullup off\r\n");

}

}

if (c == 'r') {

if (redratio >= 255){

send\_string("I'm afraid I can't do that\r\n");

}

else{

redratio = redratio + 1;

PWM1\_SetRatio8(redratio);

send\_string("Toggled Red up\r\n");}

}

if (c == 'R') {

if (redratio <= 0){

send\_string("I'm afraid I can't do that\r\n");

}

else{

redratio = redratio - 1;

PWM1\_SetRatio8(redratio);

send\_string("Toggled Red down\r\n");}

}

if (c == 'g') {

if (greenratio >= 255){

send\_string("I'm afraid I can't do that\r\n");

}

else{

greenratio = greenratio + 1;

PWM2\_SetRatio8(greenratio);

send\_string("Toggled Green up\r\n");}

}

if (c == 'G') {

if (greenratio <= 0){

send\_string("I'm afraid I can't do that\r\n");

}

else{

greenratio = greenratio - 1;

PWM2\_SetRatio8(greenratio);

send\_string("Toggled Green down\r\n");}

}

}

Bit2\_PutVal(Bit1\_GetVal());

}

/\*\*\* Don't write any code pass this line, or it will be deleted during code generation. \*\*\*/

/\*\*\* RTOS startup code. Macro PEX\_RTOS\_START is defined by the RTOS component. DON'T MODIFY THIS CODE!!! \*\*\*/

#ifdef PEX\_RTOS\_START

PEX\_RTOS\_START(); /\* Startup of the selected RTOS. Macro is defined by the RTOS component. \*/

#endif

/\*\*\* End of RTOS startup code. \*\*\*/

/\*\*\* Processor Expert end of main routine. DON'T MODIFY THIS CODE!!! \*\*\*/

for(;;){}

/\*\*\* Processor Expert end of main routine. DON'T WRITE CODE BELOW!!! \*\*\*/

} /\*\*\* End of main routine. DO NOT MODIFY THIS TEXT!!! \*\*\*/

/\* END main \*/

/\*!

\*\* @}

\*/

/\*

\*\* ###################################################################

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\*\* This file was created by Processor Expert 10.5 [05.21]

\*\* for the Freescale Kinetis series of microcontrollers.

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