/\* USER CODE BEGIN Header \*/

/\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* @file : main.c

\* @brief : Main program body

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* @attention

\*

\* Copyright (c) 2022 STMicroelectronics.

\* All rights reserved.

\*

\* This software is licensed under terms that can be found in the LICENSE file

\* in the root directory of this software component.

\* If no LICENSE file comes with this software, it is provided AS-IS.

\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*/

/\* USER CODE END Header \*/

/\* Includes ------------------------------------------------------------------\*/

**#include** "main.h"

/\* Private includes ----------------------------------------------------------\*/

/\* USER CODE BEGIN Includes \*/

/\* USER CODE END Includes \*/

/\* Private typedef -----------------------------------------------------------\*/

/\* USER CODE BEGIN PTD \*/

/\* USER CODE END PTD \*/

/\* Private define ------------------------------------------------------------\*/

/\* USER CODE BEGIN PD \*/

/\* USER CODE END PD \*/

/\* Private macro -------------------------------------------------------------\*/

/\* USER CODE BEGIN PM \*/

/\* USER CODE END PM \*/

/\* Private variables ---------------------------------------------------------\*/

/\* USER CODE BEGIN PV \*/

/\* USER CODE END PV \*/

/\* Private function prototypes -----------------------------------------------\*/

**void** **SystemClock\_Config**(**void**);

**static** **void** **MX\_GPIO\_Init**(**void**);

/\* USER CODE BEGIN PFP \*/

/\* USER CODE END PFP \*/

/\* Private user code ---------------------------------------------------------\*/

/\* USER CODE BEGIN 0 \*/

/\* USER CODE END 0 \*/

/\*\*

\* @brief The application entry point.

\* @retval int

\*/

**int** **main**(**void**)

{

/\* USER CODE BEGIN 1 \*/

/\* USER CODE END 1 \*/

/\* MCU Configuration--------------------------------------------------------\*/

/\* Reset of all peripherals, Initializes the Flash interface and the Systick. \*/

HAL\_Init();

/\* USER CODE BEGIN Init \*/

/\* USER CODE END Init \*/

/\* Configure the system clock \*/

SystemClock\_Config();

/\* USER CODE BEGIN SysInit \*/

/\* USER CODE END SysInit \*/

/\* Initialize all configured peripherals \*/

MX\_GPIO\_Init();

/\* USER CODE BEGIN 2 \*/

/\* USER CODE END 2 \*/

/\* Infinite loop \*/

/\* USER CODE BEGIN WHILE \*/

**while** (1)

{

/\* USER CODE END WHILE \*/

/\* USER CODE BEGIN 3 \*/

HAL\_GPIO\_TogglePin(GPIOC, GPIO\_PIN\_13);

HAL\_Delay(1000);

}

/\* USER CODE END 3 \*/

}

/\*\*

\* @brief System Clock Configuration

\* @retval None

\*/

**void** **SystemClock\_Config**(**void**)

{

RCC\_OscInitTypeDef RCC\_OscInitStruct = {0};

RCC\_ClkInitTypeDef RCC\_ClkInitStruct = {0};

/\*\* Initializes the RCC Oscillators according to the specified parameters

\* in the RCC\_OscInitTypeDef structure.

\*/

RCC\_OscInitStruct.OscillatorType = RCC\_OSCILLATORTYPE\_HSI;

RCC\_OscInitStruct.HSIState = RCC\_HSI\_ON;

RCC\_OscInitStruct.HSICalibrationValue = RCC\_HSICALIBRATION\_DEFAULT;

RCC\_OscInitStruct.PLL.PLLState = RCC\_PLL\_NONE;

**if** (HAL\_RCC\_OscConfig(&RCC\_OscInitStruct) != *HAL\_OK*)

{

Error\_Handler();

}

/\*\* Initializes the CPU, AHB and APB buses clocks

\*/

RCC\_ClkInitStruct.ClockType = RCC\_CLOCKTYPE\_HCLK|RCC\_CLOCKTYPE\_SYSCLK

|RCC\_CLOCKTYPE\_PCLK1|RCC\_CLOCKTYPE\_PCLK2;

RCC\_ClkInitStruct.SYSCLKSource = RCC\_SYSCLKSOURCE\_HSI;

RCC\_ClkInitStruct.AHBCLKDivider = RCC\_SYSCLK\_DIV1;

RCC\_ClkInitStruct.APB1CLKDivider = RCC\_HCLK\_DIV1;

RCC\_ClkInitStruct.APB2CLKDivider = RCC\_HCLK\_DIV1;

**if** (HAL\_RCC\_ClockConfig(&RCC\_ClkInitStruct, FLASH\_LATENCY\_0) != *HAL\_OK*)

{

Error\_Handler();

}

}

/\*\*

\* @brief GPIO Initialization Function

\* @param None

\* @retval None

\*/

**static** **void** **MX\_GPIO\_Init**(**void**)

{

GPIO\_InitTypeDef GPIO\_InitStruct = {0};

/\* GPIO Ports Clock Enable \*/

\_\_HAL\_RCC\_GPIOC\_CLK\_ENABLE();

\_\_HAL\_RCC\_GPIOA\_CLK\_ENABLE();

/\*Configure GPIO pin Output Level \*/

HAL\_GPIO\_WritePin(GPIOC, GPIO\_PIN\_13, *GPIO\_PIN\_RESET*);

/\*Configure GPIO pin : PC13 \*/

GPIO\_InitStruct.Pin = GPIO\_PIN\_13;

GPIO\_InitStruct.Mode = GPIO\_MODE\_OUTPUT\_PP;

GPIO\_InitStruct.Pull = GPIO\_NOPULL;

GPIO\_InitStruct.Speed = GPIO\_SPEED\_FREQ\_LOW;

HAL\_GPIO\_Init(GPIOC, &GPIO\_InitStruct);

}

/\* USER CODE BEGIN 4 \*/

/\* USER CODE END 4 \*/

/\*\*

\* @brief This function is executed in case of error occurrence.

\* @retval None

\*/

**void** **Error\_Handler**(**void**)

{

/\* USER CODE BEGIN Error\_Handler\_Debug \*/

/\* User can add his own implementation to report the HAL error return state \*/

\_\_disable\_irq();

**while** (1)

{

}

/\* USER CODE END Error\_Handler\_Debug \*/

}

**#ifdef** USE\_FULL\_ASSERT

/\*\*

\* @brief Reports the name of the source file and the source line number

\* where the assert\_param error has occurred.

\* @param file: pointer to the source file name

\* @param line: assert\_param error line source number

\* @retval None

\*/

**void** assert\_failed(uint8\_t \*file, uint32\_t line)

{

/\* USER CODE BEGIN 6 \*/

/\* User can add his own implementation to report the file name and line number,

ex: printf("Wrong parameters value: file %s on line %d\r\n", file, line) \*/

/\* USER CODE END 6 \*/

}

**#endif** /\* USE\_FULL\_ASSERT \*/