Toggle Led

1. Open STM32cubeIDE and create a new project and choose “STM32F103C6” as part number
   1. Press on datasheet button on the top to download it

A picture containing text

Description automatically generated

* 1. Targeted project type -> **Empty**

1. Insert the code

**#ifndef** M\_H

**#define** M\_H

**#include** "Platform\_Types.h"

**#define** RCC\_Base 0x40021000 // Reset and clock control

**#define** PortA\_Base 0x40010800

**#define** RCC\_APB2ENR \*(**volatile** uint32\_t \*)(RCC\_Base + 0x18)

**#define** PortA\_CRH \*(**volatile** uint32\_t \*)(PortA\_Base + 0x04)

**#define** RCC\_IOPAEN (1<<2)

// you can

// #define PortA\_ODR \*(volatile uint32\_t \*)(PortA\_Base + 0x0C)

// or instead for a more professional way you can

**typedef** **union**{

vuint32\_t all\_fields;

**struct**{

vuint32\_t reserverd:13;

vuint32\_t P\_13:1;

} Pin;

} R\_ODR\_t;

**volatile** R\_ODR\_t\* R\_ODR = (**volatile** R\_ODR\_t\*)(PortA\_Base + 0x0C);

**#endif**

**#include** "Memory\_map.h"

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

{

RCC\_APB2ENR |= RCC\_IOPAEN;

PortA\_CRH &= 0xFF0FFFFF;

PortA\_CRH |= 0x00200000;

**while**(1){

**int** i=0;

R\_ODR->Pin.P\_13 = 1;

**for**(; i<5000; i++); // arbitrary delay

R\_ODR->Pin.P\_13 = 0;

**for**(i=0; i<5000; i++); // arbitrary delay

}

}

1. Open proteus and draw the circuit

Chart

Description automatically generated

* 1. Press on the board and add the location of the program you wrote in stm32

Graphical user interface, application

Description automatically generated

https://www.youtube.com/watch?v=4clPGiZ8jAc

* 1. Don’t forget to generate the .hex project

