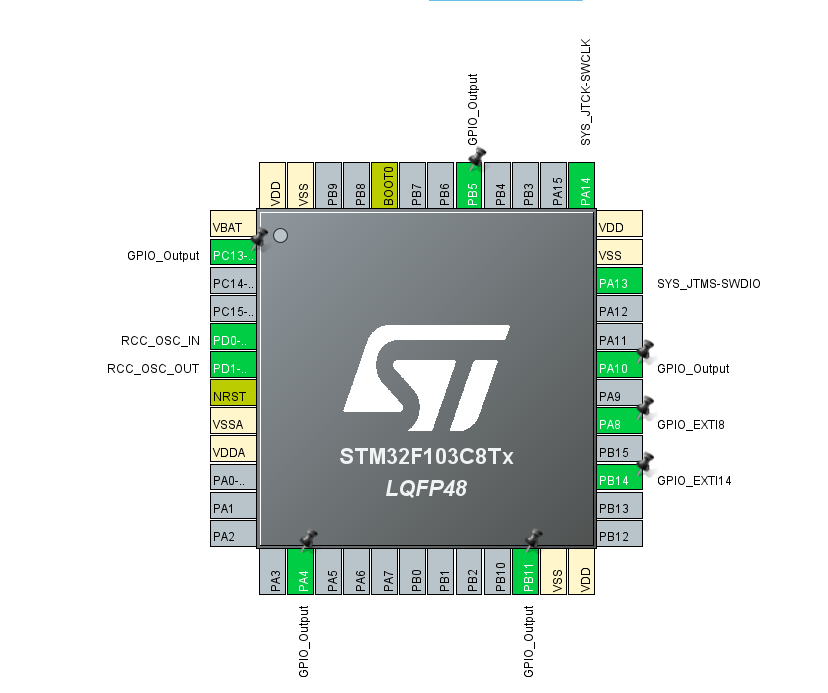
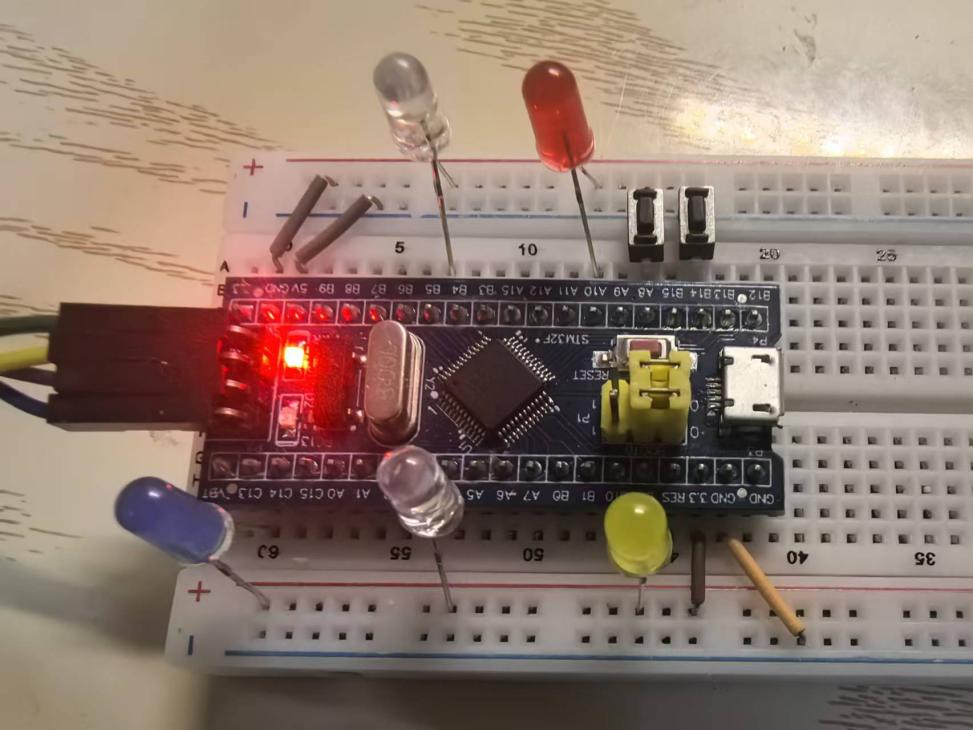
**变速流水灯项目**

**引脚设置：**



**硬件图片：**



**关键代码：**

**注释：按钮A8为启动按钮，低电平触发中断函数HAL\_GPIO\_EXTI\_IRQHandler(GPIO\_PIN\_8)，开启变速流水灯。按钮B14为关闭按钮，低电平触发中断函数HAL\_GPIO\_EXTI\_IRQHandler(GPIO\_PIN\_14)，关闭变速流水灯并进入while死循环恢复初始设置speed(速度参数)=1，stage(状态计数器)=0，并不断读入引脚A8电平。当读到A8电平为低电平(按下A8处按钮)后，break跳出死循环，继续执行HAL\_GPIO\_EXTI\_IRQHandler(GPIO\_PIN\_8)。**

void EXTI9\_5\_IRQHandler(void)

{

/\* USER CODE BEGIN EXTI9\_5\_IRQn 0 \*/

/\* USER CODE END EXTI9\_5\_IRQn 0 \*/

HAL\_GPIO\_EXTI\_IRQHandler(GPIO\_PIN\_8);

/\* USER CODE BEGIN EXTI9\_5\_IRQn 1 \*/

while(1){

if(stage >= 1 && stage <= 3){

HAL\_GPIO\_WritePin(GPIOC, GPIO\_PIN\_13, 0);

}else{

HAL\_GPIO\_WritePin(GPIOC, GPIO\_PIN\_13, 1);

}

if(stage >= 2 && stage <= 4){

HAL\_GPIO\_WritePin(GPIOA, GPIO\_PIN\_4, 0);

}else{

HAL\_GPIO\_WritePin(GPIOA, GPIO\_PIN\_4, 1);

}

if(stage >= 3 && stage <= 5){

HAL\_GPIO\_WritePin(GPIOB, GPIO\_PIN\_11, 0);

}else{

HAL\_GPIO\_WritePin(GPIOB, GPIO\_PIN\_11, 1);

}

if(stage >= 4 && stage <= 6){

HAL\_GPIO\_WritePin(GPIOB, GPIO\_PIN\_5, 0);

}else{

HAL\_GPIO\_WritePin(GPIOB, GPIO\_PIN\_5, 1);

}

if(stage >= 5 && stage <= 7){

HAL\_GPIO\_WritePin(GPIOA, GPIO\_PIN\_10, 0);

}else{

HAL\_GPIO\_WritePin(GPIOA, GPIO\_PIN\_10, 1);

}

stage ++;

if(stage > 7){

stage = 1;

speed +=1;

}

HAL\_Delay(1200 / speed);

if(speed == 100){

while(1){

speed -= 2;

break;

}

}

}

/\* USER CODE END EXTI9\_5\_IRQn 1 \*/

}

/\*\*

\* @brief This function handles EXTI line[15:10] interrupts.

\*/

void EXTI15\_10\_IRQHandler(void)

{

/\* USER CODE BEGIN EXTI15\_10\_IRQn 0 \*/

/\* USER CODE END EXTI15\_10\_IRQn 0 \*/

HAL\_GPIO\_EXTI\_IRQHandler(GPIO\_PIN\_14);

/\* USER CODE BEGIN EXTI15\_10\_IRQn 1 \*/

speed = 1;

HAL\_GPIO\_WritePin(GPIOC, GPIO\_PIN\_13, 1);

HAL\_GPIO\_WritePin(GPIOA, GPIO\_PIN\_4, 1);

HAL\_GPIO\_WritePin(GPIOB, GPIO\_PIN\_11, 1);

HAL\_GPIO\_WritePin(GPIOB, GPIO\_PIN\_5, 1);

HAL\_GPIO\_WritePin(GPIOA, GPIO\_PIN\_10, 1);

while(1){

if(HAL\_GPIO\_ReadPin(GPIOA,GPIO\_PIN\_8) == 0){

speed = 1;

stage = 1;

break;

}

}

/\* USER CODE END EXTI15\_10\_IRQn 1 \*/

}