Nirbhay Sharma (B19CSE114)

DSL - Lab -9

Task-1

```
#include "stm32f4xx.h"
void delay(int dd){
    for (int i = 0;i<dd;i++){
        for (int j = 0;j<300000;j++){
            ;
        }
    }
}

main(void)
{

    RCC->AHB1ENR = 0X40; // ENABLING CLOCK FOR PORT G
    GPIOG->MODER = 0X5000000;
    GPIOG->ODR = (1<<13) | (1<<14);
    while (1) {
        GPIOG->ODR = 0X0;
        delay(100);
        GPIOG->ODR = (1<<13) | (1<<14);
        delay(100);
    }

}
```

Task-2

part-a

```
#include "stm32f4xx.h"
void delay(int dd){
    for (int i = 0;i<dd;i++){
        for (int j = 0;j<300000;j++){
            ;
        }
    }
}

main(void)
{

    RCC->AHB1ENR = 0X40; // ENABLING CLOCK FOR PORT G
    GPIOG->MODER = 0X1000000;
    GPIOG->ODR = (1<<13);
    while (1) {
        GPIOG->ODR = 0X0;
        delay(100);
        GPIOG->ODR = (1<<13);
        delay(100);
    }
```

```
}
```

part-b

```
#include "stm32f4xx.h"
void delay(int dd){
    for (int i = 0;i<dd;i++){
        for (int j = 0;j<300000;j++){
            ;
        }
    }
}

main(void)
{

    RCC->AHB1ENR = 0X40; // ENABLING CLOCK FOR PORT G
    GPIOG->MODER = 0X4000000;
    GPIOG->ODR = (1<<14);
    while (1) {
        GPIOG->ODR = 0X0;
        delay(100);
        GPIOG->ODR = (1<<14);
        delay(100);
    }

}
```

part-c

```
#include "stm32f4xx.h"
void delay(int dd){
    for (int i = 0;i<dd;i++){
        for (int j = 0;j<300000;j++){
            ;
        }
    }
}

main(void)
{

    RCC->AHB1ENR = 0X40; // ENABLING CLOCK FOR PORT G
    GPIOG->MODER = 0X5000000;
    int led13=1,led14=0;
    GPIOG->ODR = (1<<13);
    led13--;led14++;
    while (1) {
        if (led14 == 1) {
            GPIOG->ODR = (1<<14);
            led14--;led13++;
            delay(100);
            continue;
        }
        if (led13 == 1) {
            GPIOG->ODR = (1<<13);
            led13--;led14++;
            delay(100);
```

```
            continue;
        }
    }

}
```

Task-3

```
#include "stm32f4xx.h"
void delay(int dd){
    for (int i = 0;i<dd;i++){
        for (int j = 0;j<300000;j++){
            ;
        }
    }
}

main(void)
{

    RCC->AHB1ENR = 0X41; // ENABLING CLOCK FOR PORT G & A
    GPIOG->MODER = 0X1000000;
    GPIOA->MODER = 0x0;

    while (1) {
        if (GPIOA->IDR & 0X01) {
            GPIOG->ODR = (1<<13);
            while (GPIOA->IDR & 0X01) {
                ;
            }
        }
        GPIOA->ODR = 0X0;

    }

}
```

Task-4

```
#include "stm32f4xx.h"
void delay(int dd){
    for (int i = 0;i<dd;i++){
        for (int j = 0;j<300000;j++){
            ;
        }
    }
}

main(void)
{

    RCC->AHB1ENR = 0X41; // ENABLING CLOCK FOR PORT G & A
    GPIOG->MODER = 0X1000000;
    GPIOA->MODER = 0x0;

    while (1) {
        if (GPIOA->IDR & 0X01) {
```

```
            GPIOG->ODR = (1<<13);
            while (GPIOA->IDR & 0X01) {
                ;
            }
        }
        GPIOA->ODR = 0X0;

    }

}
```

Task-5

```
#include "stm32f4xx.h"
void delay(int dd){
    for (int i = 0;i<dd;i++){
        for (int j = 0;j<300000;j++){
            ;
        }
    }
}

main(void)
{

    RCC->AHB1ENR = 0X41; // ENABLING CLOCK FOR PORT G & A
    GPIOG->MODER = 0X1000000;
    GPIOA->MODER = 0x0;
    int againon = 0;
    while (1) {
        if (GPIOA->IDR & 0X01) {
            againon = 1-againon;
            if (againon == 1){
                GPIOG->ODR = (1<<13);
            } else {
                GPIOG->ODR = 0x0;
            }
            while (GPIOA->IDR & 0X01);
        }
    }

}
```

Task-6

```
void setup() {
  // put your setup code here, to run once:

  Serial.begin(9600);
}

void loop() {
  // put your main code here, to run repeatedly:
  int aread1 = analogRead(A1);
  delay(1);
  int aread2 = analogRead(A2);
```

```
  if (aread2 > aread1){
    Serial.println(aread2);
  } else {
    Serial.println("printing Nothing");
  }
}
```
