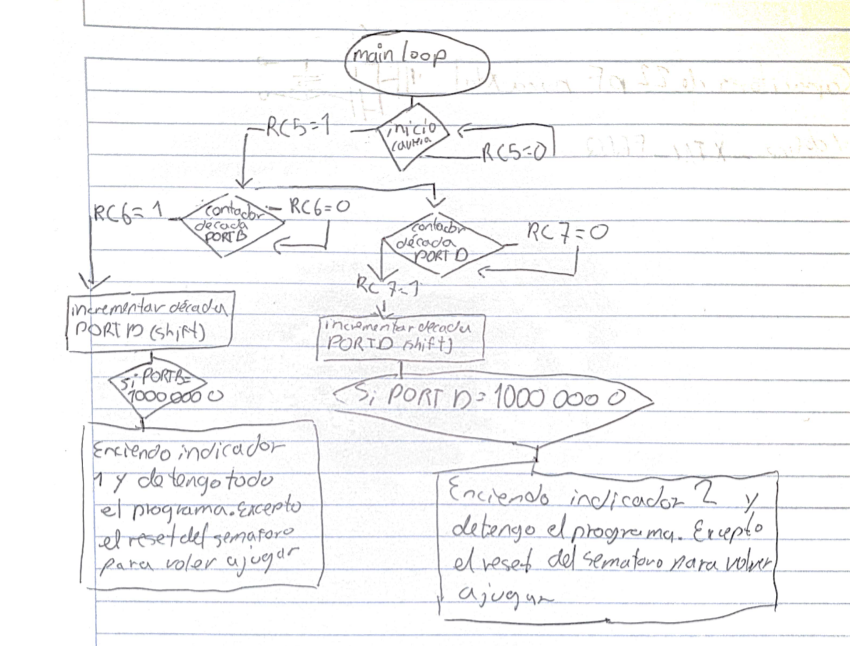
**REPORTE #4:**

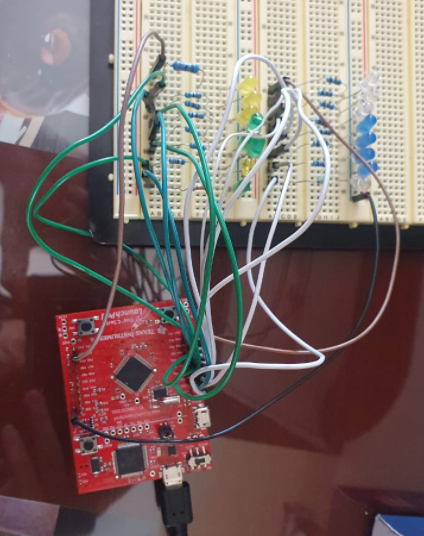
**Juego de Carreras en TIVA C**

Link de repositorio: <https://github.com/Cue19275/Digital2>

**Pre-lab:**



**Circuito:**



**Código:**

#define J1\_1 PB\_5

#define J1\_2 PB\_0

#define J1\_3 PB\_1

#define J1\_4 PE\_4

#define J1\_5 PE\_5

#define J1\_6 PB\_4

#define J1\_7 PA\_5

#define J1\_8 PA\_6

#define J2\_1 PD\_0

#define J2\_2 PD\_1

#define J2\_3 PD\_2

#define J2\_4 PD\_3

#define J2\_5 PE\_1

#define J2\_6 PE\_2

#define J2\_7 PE\_3

#define J2\_8 PD\_7

int estadoSalida;

int estado;

int estadoSalidaC2;

int estadoC2;

int enable\_J = 0;

int terminado = 0;

int flagJ1 = 0;

int flagJ2 = 0;

int contaJ1 = 0;

int contaJ2 = 0;

void semaforo (void);

void cont1 (void);

void cont2 (void);

void ganador (void);

void debounce (void);

void debounce2 (void);

void apagado(void);

void setup() {

pinMode(J1\_1, OUTPUT);

pinMode(J1\_2, OUTPUT);

pinMode(J1\_3, OUTPUT);

pinMode(J1\_4, OUTPUT);

pinMode(J1\_5, OUTPUT);

pinMode(J1\_6, OUTPUT);

pinMode(J1\_7, OUTPUT);

pinMode(J1\_8, OUTPUT);

pinMode(J2\_1, OUTPUT);

pinMode(J2\_2, OUTPUT);

pinMode(J2\_3, OUTPUT);

pinMode(J2\_4, OUTPUT);

pinMode(J2\_5, OUTPUT);

pinMode(J2\_6, OUTPUT);

pinMode(J2\_7, OUTPUT);

pinMode(J2\_8, OUTPUT);

pinMode(BLUE\_LED, OUTPUT);

pinMode(GREEN\_LED, OUTPUT);

pinMode(RED\_LED, OUTPUT);

pinMode(PUSH1, INPUT\_PULLUP);

pinMode(PUSH2, INPUT\_PULLUP);

}

void loop() {

// put your main code here, to run repeatedly:

if (enable\_J ==0){

semaforo();

}

else if (enable\_J == 1){

cont1();

cont2();

/\*if (terminado == 1){

estado = digitalRead(PUSH1);

if (estado == LOW){

estadoSalida=1;

}

if (estadoSalida==1){

if (estado == HIGH){

estadoSalida =0;

flagJ1 = 1;

}

}

estadoC2 = digitalRead(PUSH2);

if (estadoC2 == LOW){

estadoSalidaC2=1;

}

if (estadoSalidaC2==1){

if (estadoC2 == HIGH){

estadoSalidaC2 =0;

flagJ2 = 1;

}

}

if (flagJ1 == 1 && flagJ2 == 1){

flagJ2 = 0;

flagJ1 = 0;

enable\_J = 0;

terminado = 0;

}

}\*/

}

delay(200);

}

void semaforo(void){

estado = digitalRead(PUSH1);

if (estado == LOW){

estadoSalida=1;

}

if (estadoSalida==1){

if (estado == HIGH){

estadoSalida =0;

flagJ1 = 1;

}

}

estadoC2 = digitalRead(PUSH2);

if (estadoC2 == LOW){

estadoSalidaC2=1;

}

if (estadoSalidaC2==1){

if (estadoC2 == HIGH){

estadoSalidaC2 =0;

flagJ2 = 1;

}

}

if (flagJ1 == 1 && flagJ2 == 1){

apagado();

enable\_J = 1;

flagJ1 = 0;

flagJ2 = 0;

digitalWrite(RED\_LED, HIGH);

digitalWrite(GREEN\_LED, LOW);

digitalWrite(BLUE\_LED, LOW);

delay(500);

digitalWrite(BLUE\_LED, LOW);

digitalWrite(RED\_LED, HIGH);

digitalWrite(GREEN\_LED, HIGH);

delay(500);

digitalWrite(GREEN\_LED, HIGH);

digitalWrite(RED\_LED, LOW);

digitalWrite(BLUE\_LED, LOW);

}

}

void apagado (void){

digitalWrite(RED\_LED, LOW);

digitalWrite(BLUE\_LED, LOW);

digitalWrite(GREEN\_LED, LOW);

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, LOW);

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, LOW);

}

void cont1 (void) {

estado = digitalRead(PUSH1);

if (estado == LOW){

estadoSalida=1;

}

if (estadoSalida==1){

if (estado == HIGH){

estadoSalida =0;

contaJ1++;

switch(contaJ1){

case 1:

digitalWrite(J1\_1, HIGH);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, LOW);

break;

case 2:

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, HIGH);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, LOW);

break;

case 3:

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, HIGH);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, LOW);

break;

case 4:

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, HIGH);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, LOW);

break;

case 5:

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, HIGH);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, LOW);

break;

case 6:

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, HIGH);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, LOW);

break;

case 7:

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, HIGH);

digitalWrite(J1\_8, LOW);

break;

case 8:

digitalWrite(J1\_1, LOW);

digitalWrite(J1\_2, LOW);

digitalWrite(J1\_3, LOW);

digitalWrite(J1\_4, LOW);

digitalWrite(J1\_5, LOW);

digitalWrite(J1\_6, LOW);

digitalWrite(J1\_7, LOW);

digitalWrite(J1\_8, HIGH);

break;

case 9:

contaJ1 = 0;

contaJ2 = 0;

enable\_J = 0;

digitalWrite(GREEN\_LED, LOW);

digitalWrite(RED\_LED, HIGH);

digitalWrite(BLUE\_LED, HIGH);

break;

}

}

}

}

void cont2 (void) {

estadoC2 = digitalRead(PUSH2);

if (estadoC2 == LOW){

estadoSalidaC2=1;

}

if (estadoSalidaC2==1){

if (estadoC2 == HIGH){

estadoSalidaC2 =0;

contaJ2++;

switch(contaJ2){

case 1:

digitalWrite(J2\_1, HIGH);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, LOW);

break;

case 2:

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, HIGH);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, LOW);

break;

case 3:

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, HIGH);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, LOW);

break;

case 4:

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, HIGH);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, LOW);

break;

case 5:

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, HIGH);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, LOW);

break;

case 6:

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, HIGH);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, LOW);

break;

case 7:

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, HIGH);

digitalWrite(J2\_8, LOW);

break;

case 8:

digitalWrite(J2\_1, LOW);

digitalWrite(J2\_2, LOW);

digitalWrite(J2\_3, LOW);

digitalWrite(J2\_4, LOW);

digitalWrite(J2\_5, LOW);

digitalWrite(J2\_6, LOW);

digitalWrite(J2\_7, LOW);

digitalWrite(J2\_8, HIGH);

break;

case 9:

contaJ2 = 0;

contaJ1 = 0;

enable\_J = 0;

digitalWrite(GREEN\_LED, HIGH);

digitalWrite(BLUE\_LED, HIGH);

break;

}

}

}

}