Examen Parcial

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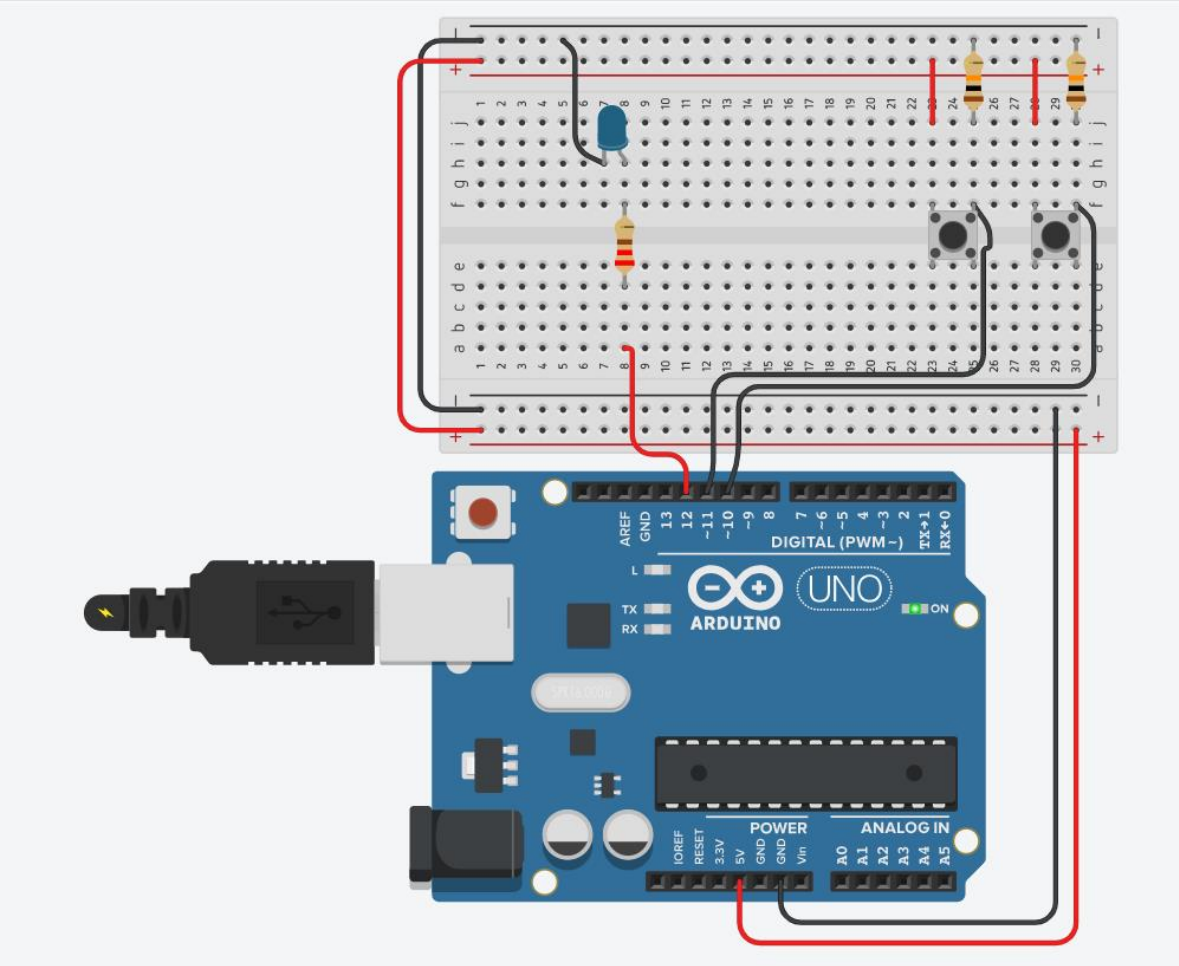
Pregunta 1) Circuito FlipFlop

Hardware:



Software:

```
// Prueba Parcial

// Inicializacion de variables

// Leds

byte led1 = 12;

// Pulsadores

byte pulsador1 = 11;
byte pulsador2 = 10;

// FlipFlop

bool flipF = LOW;

// Lectura de pulsadores

bool value1 = LOW;
bool value2 = LOW;

// Inicializacion Entradas y Salidas

void setup()

{

  // Leds

  pinMode(led1, OUTPUT);

  // Pulsadores

  pinMode(pulsador1, INPUT);
  pinMode(pulsador2, INPUT);

}
```

```
// Logica del Programa

void loop()
{

  // Asignacion de la lectura de los pulasdores

  value1 = digitalRead(pulsador1);
  value2 = digitalRead(pulsador2);




  // Cambio de Estado

  if (value1 == LOW && value2 == LOW) {

    flipF = flipF;

  } else if (value1 == HIGH && value2 == LOW) {

    flipF = HIGH;

  } else if (value1 == LOW && value2 == HIGH) {

    flipF = LOW;

  } else if (value1 == HIGH && value2 == HIGH) {

    flipF = flipF;

  }

  digitalWrite(led1, flipF);
```

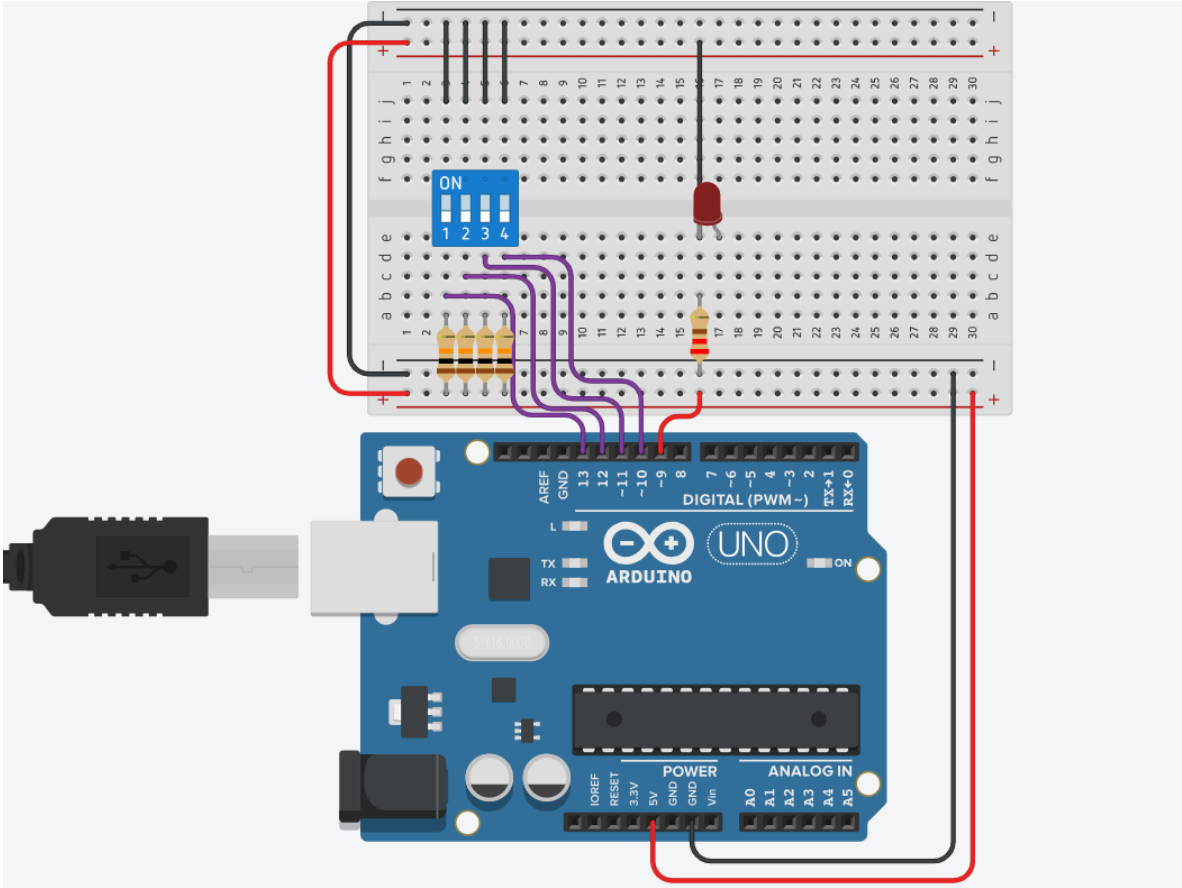
```
  // Reloj

  for (int i = 0; i < 500; i++) {

    delay(1);

  }
}
```

Link Tinkercad:

https://www.tinkercad.com/things/8vxykOM2xAL-brilliant-densor-jaban/editel?sharecode=4nBU-HAwLRP5a2WMFDbZzXS29RzKQ8kJdQteUrdlPRE

Pregunta 2) Tabla de Valores

Software:



Hardware:

```
// Prueba Parcial2 Pregunta

// Inicializacion de variables

// Switchs

Byte switch1 = 13;
Byte switch2 = 12;
Byte switch3 = 11;
Byte switch4 = 10;

// Estados de los Switchs

// Led

bool val1 = LOW;
bool val2 = LOW;
bool val3 = LOW;
bool val4 = LOW;

// Inicializacion Salidas Entradas

void setup()
{
  // Led

  pinMode(led, OUTPUT);

  // Switch

  pinMode(switch1, INPUT);
  pinMode(switch2, INPUT);
  pinMode(switch3, INPUT);
  pinMode(switch4, INPUT);


}

void loop()
{
```

```
{

  // Logica del Progrma

  val1 = digitalRead(switch1);
  val2 = digitalRead(switch2);
  val3 = digitalRead(switch3);
  val4 = digitalRead(switch4);

  if ((val1 == LOW) && (val2 == LOW) && (val3 == LOW) && (val4 ==
    operacion = LOW;
  else if ((val1 == LOW) && (val2 == LOW) && (val3 == LOW) && (va
    operacion = LOW;
  else if ((val1 == LOW) && (val2 == LOW) && (val3 == HIGH) && (v
    operacion = HIGH;
  else if ((val1 == LOW) && (val2 == LOW) && (val3 == HIGH) && (v
    operacion = LOW;
  else if ((val1 == LOW) && (val2 == HIGH) && (val3 == LOW) && (v
    operacion = LOW;
  else if ((val1 == LOW) && (val2 == HIGH) && (val3 == LOW) && (v
    operacion = HIGH;
  else if ((val1 == LOW) && (val2 == HIGH) && (val3 == HIGH) && (
    operacion = HIGH;
  else if ((val1 == LOW) && (val2 == HIGH) && (val3 == HIGH) && (
    operacion = LOW;
  else if ((val1 == HIGH) && (val2 == LOW) && (val3 == LOW) && (v
    operacion = HIGH;
  else if ((val1 == HIGH) && (val2 == LOW) && (val3 == LOW) && (v
    operacion = LOW;
  else if ((val1 == HIGH) && (val2 == LOW) && (val3 == HIGH) && (
    operacion = HIGH;
  else if ((val1 == HIGH) && (val2 == LOW) && (val3 == HIGH) && (
    operacion = LOW;
  else if ((val1 == HIGH) && (val2 == HIGH) && (val3 == LOW) && (
    operacion = LOW;
  else if ((val1 == HIGH) && (val2 == HIGH) && (val3 == LOW) && (
    operacion = HIGH;
  else if ((val1 == HIGH) && (val2 == HIGH) && (val3 == HIGH) &&
```