Agendas 12 e 13: Tecnologias da Informação III

Arduino

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"Enviar no word, em um único arquivo as imagens dos experimentos 1 e 2 no simulador ou no Arduino, e os códigos programados neste mesmo arquivo, sem compactar.
Experimento 1 – Semáforo
Experimento 2 – Piano"

Experimento 1: Semáforo

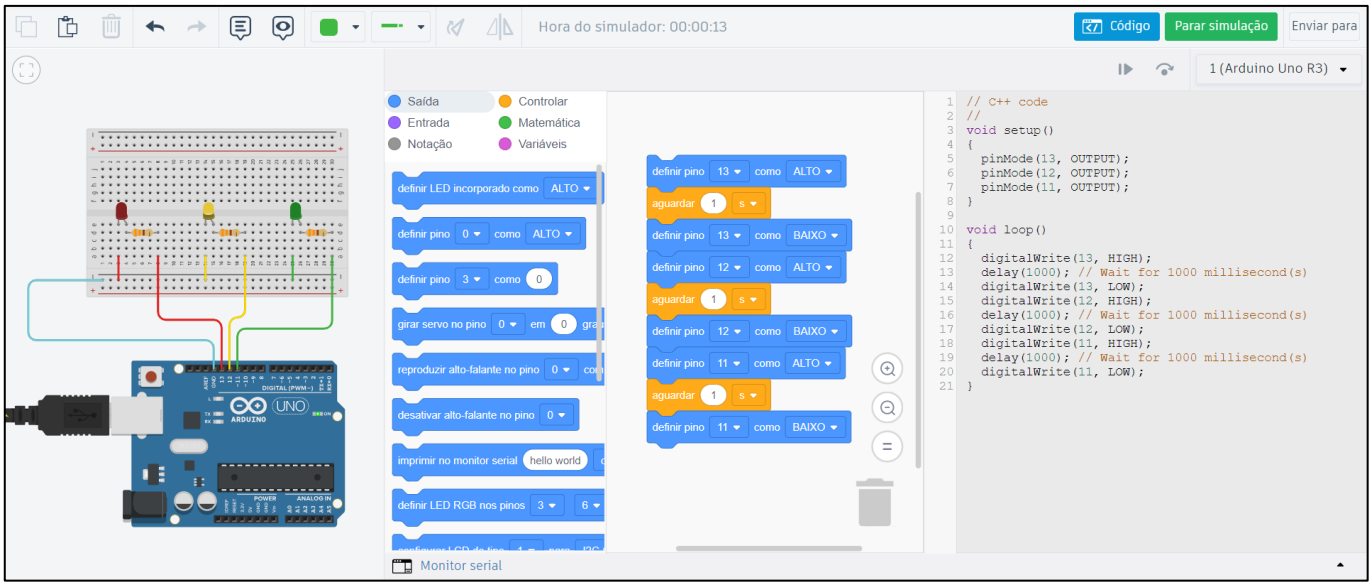

Figura 01: Experimento "Semáforo", desenvolvido no simulador de Arduino Uno on-line.

Códigos programados para o *Experimento "Semáforo"*:

```
void setup()
{
  pinMode(13, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(11, OUTPUT);
}

void loop()
{
  digitalWrite(13, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(13, LOW);
  digitalWrite(12, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(12, LOW);
  digitalWrite(11, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(11, LOW);
}
```

Experimento 2: Piano

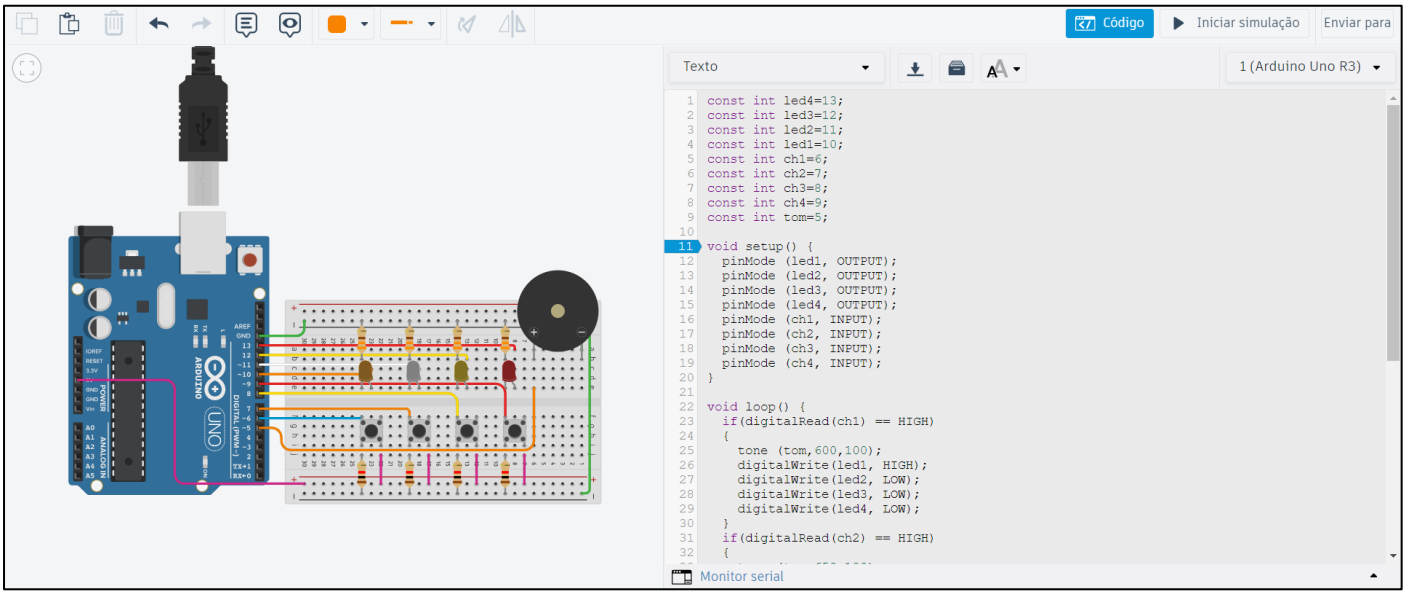

Figura 02: Experimento "Piano", desenvolvido no simulador de Arduino Uno on-line.

Códigos programados para o *Experimento "Piano"*:

```
const int led4=13;
const int led3=12;
const int led2=11;
const int led1=10;
const int ch1=6;
const int ch2=7;
const int ch3=8;
const int ch4=9;
const int tom=5;

void setup() {
  pinMode (led1, OUTPUT);
  pinMode (led2, OUTPUT);
  pinMode (led3, OUTPUT);
  pinMode (led4, OUTPUT);
  pinMode (ch1, INPUT);
  pinMode (ch2, INPUT);
  pinMode (ch3, INPUT);
  pinMode (ch4, INPUT);
}

void loop() {
  if(digitalRead(ch1) == HIGH)
  {
    tone (tom,600,100);
    digitalWrite(led1, HIGH);
    digitalWrite(led2, LOW);
    digitalWrite(led3, LOW);
    digitalWrite(led4, LOW);
  }
  if(digitalRead(ch2) == HIGH)
  {
    tone (tom,650,100);
    digitalWrite(led1, LOW);
```

```
   digitalWrite(led2, HIGH);
   digitalWrite(led3, LOW);
   digitalWrite(led4, LOW);
  }
  if(digitalRead(ch3) == HIGH)
  {
   tone (tom,700,100);
   digitalWrite(led1, LOW);
   digitalWrite(led2, LOW);
   digitalWrite(led3, HIGH);
   digitalWrite(led4, LOW);
  }
  if(digitalRead(ch4) == HIGH)
  {
   tone (tom,750,100);
   digitalWrite(led1, LOW);
   digitalWrite(led2, LOW);
   digitalWrite(led3, LOW);
   digitalWrite(led4, HIGH);
  }
}
```