Sistemas embarcados
Aula 01 - Parte 2:
Tutorial no TinkerCard Circuit

Prof. Dr. Roberto Kenji Hiramatsu
Prof. Dr. João Henrique Correia Pimentel

O TinkerCard

- Uma ferramenta web da AutoCad
  - https://www.tinkercad.com/
  -

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Para voltar ao home do TinkerCard clique aqui

Novo circuito

Para entrar no modo de construção dos circuitos

roberto.hiramatsu

Pesquisar projetos...

Desenhos

Circuits

Lições

Projetos

Curso_embarcado

9 buttons calculator

Criar projeto

Tweets Seguir

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Circuits

Create new Circuit

Mighty Fulffy
há 3 minutos
Privado

PWM_TestRev2
há 7 dias
Privado

teclado4x4
há 7 dias
Privado

R2R
há 8 dias
Privado

Ingenious Jaagub
há 8 dias
Privado

Editar isto

Doisbotoes_pullup
há 13 dias
Privado

Frantic Snicket
há um mês
Privado

Gerador_configuravel
há um mês
Privado

Teste_Codigo

Circuito_verificador_esp0

Botoes

Circuito_verificador_esp01

Acrescente os componentes:
Arduino Uno R3
Breadboard Small
LED

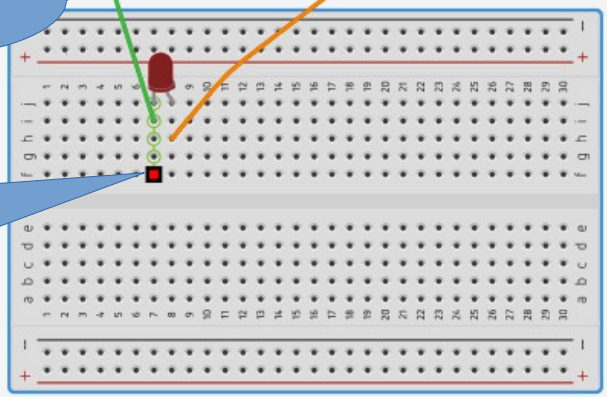
Monte o circuito apresentado

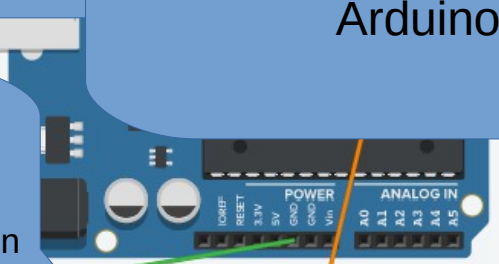
Clique aqui para editar o Código a ser executado Arduino

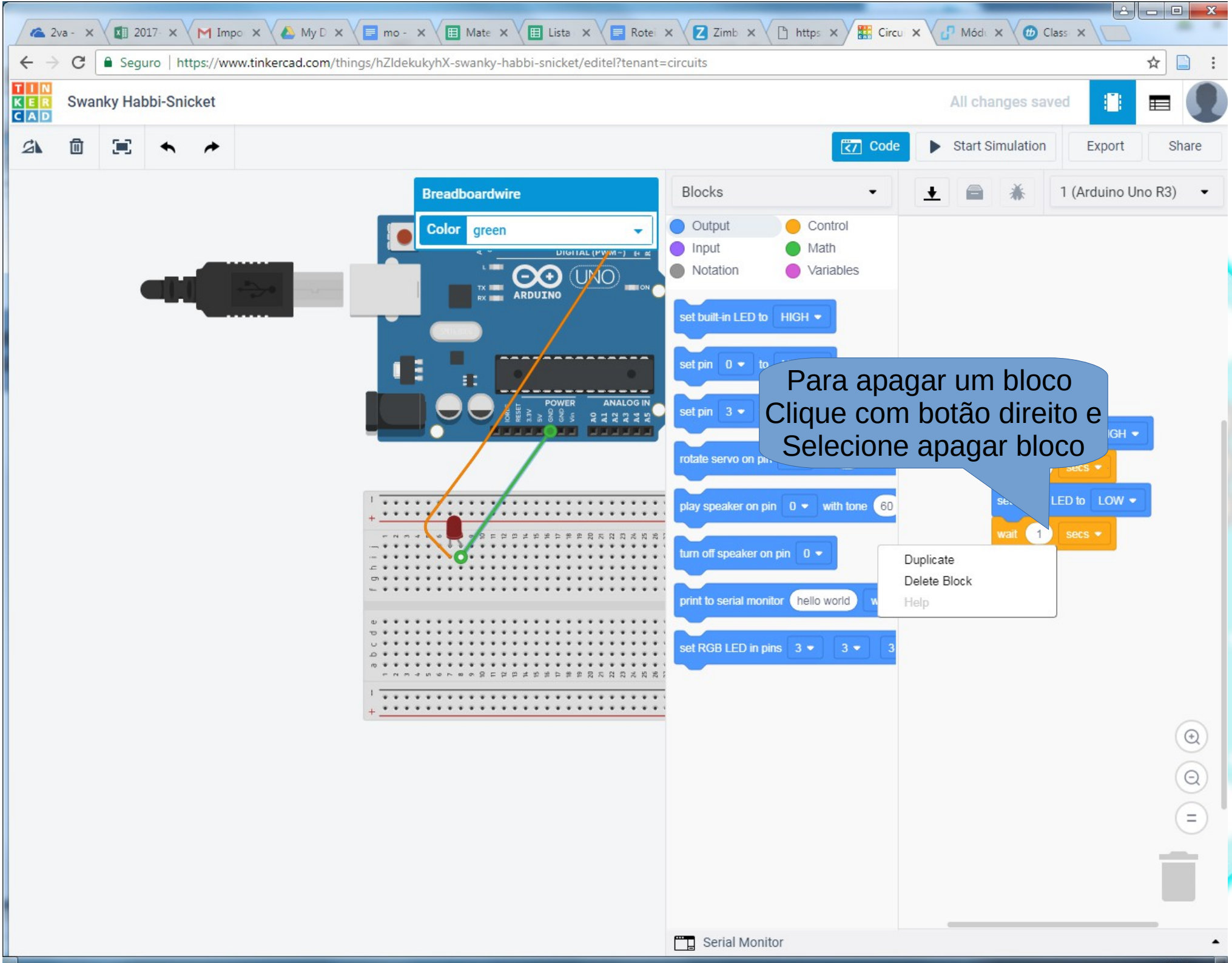
Convencione as cores dos fios do circuito para facilitar e conferir ligação
Considere terra (GND) com verde ou marron
Considere VCC 5V e 3.3V com vermelho ou preto

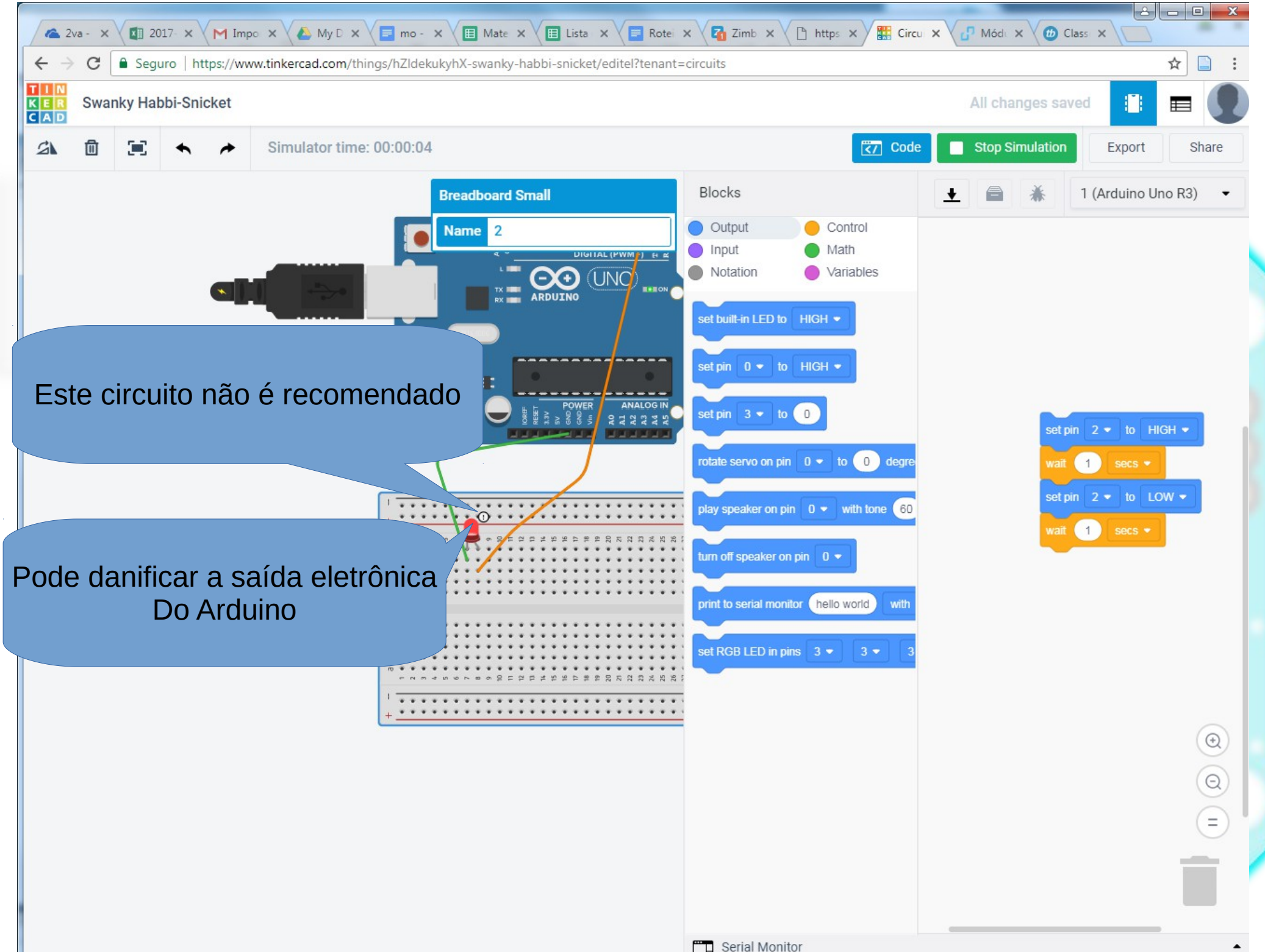
O componente nesta lista Então aparecerá na área de trabalho

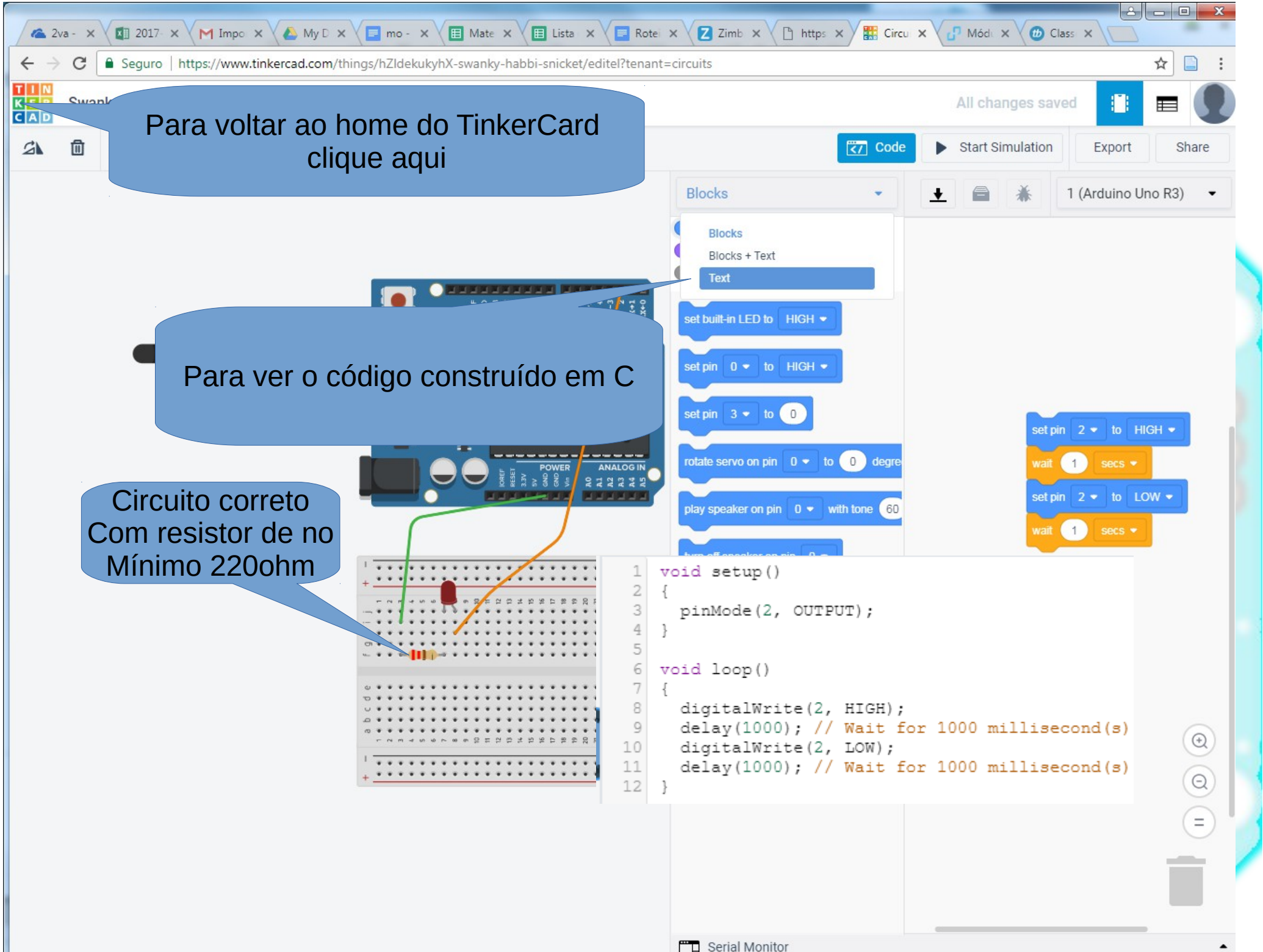
O mouse sobre o protoboard Indica quais pontos estão no "fio"

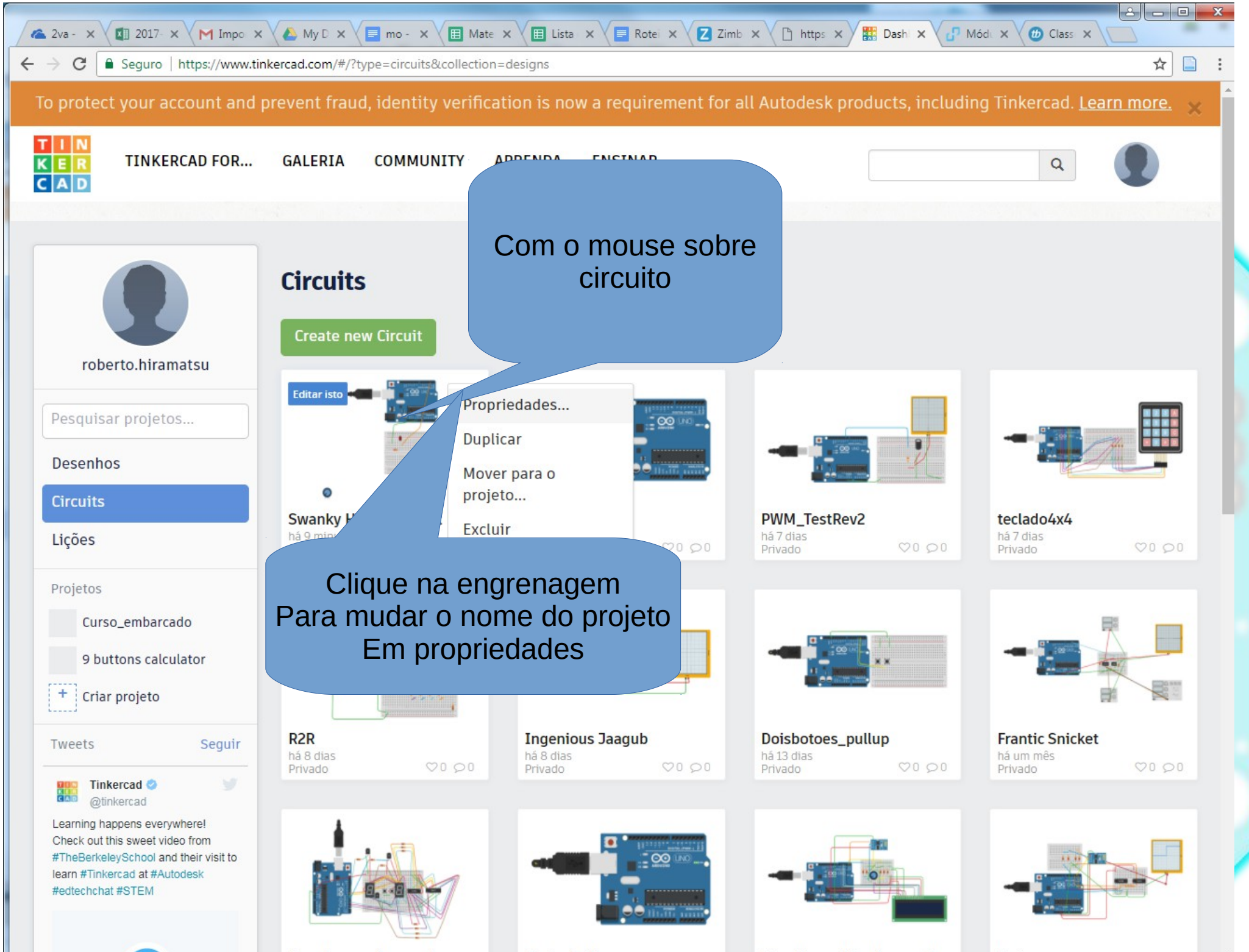





Swanky Habbi-Snicket
All changes saved
Code
Start Simulation
Export
Share
Breadboardwire
Color green
Blocks
1 (Arduino Uno R3)
Output
Control
Input
Math
Notation
Variables
set built-in LED to HIGH
set pin 0 to
set pin 3
rotate servo on pi
play speaker on pin 0 with tone 60
turn off speaker on pin 0
print to serial monitor hello world
set RGB LED in pins 3 3
Para apagar um bloco
Clique com botão direito e
Selecione apagar bloco
Duplicate
Delete Block
Help
wait 1 secs
LED to LOW
Serial Monitor


Swanky Habbi-Snicket
All changes saved
Simulator time: 00:00:04
Code
Stop Simulation
Export
Share
Breadboard Small
Name 2
Blocks
Output
Control
Input
Math
Notation
Variables
1 (Arduino Uno R3)
set built-in LED to HIGH
set pin 0 to HIGH
set pin 3 to 0
rotate servo on pin 0 to 0
play speaker on pin 0 with tone 60
turn off speaker on pin 0
print to serial monitor hello world with
set RGB LED in pins 3 3
set pin 2 to HIGH
wait 1 secs
set pin 2 to LOW
wait 1 secs
Serial Monitor
Este circuito não é recomendado
Pode danificar a saída eletrônica
Do Arduino


Para voltar ao home do TinkerCard clique aqui
Para ver o código construído em C
Circuito correto Com resistor de no Mínimo 220ohm
Code
Start Simulation
Export
Share
All changes saved
Blocks
1 (Arduino Uno R3)
Blocks
Blocks + Text
Text
set built-in LED to HIGH
set pin 0 to HIGH
set pin 3 to 0
rotate servo on pin 0 to 0
play speaker on pin 0 with tone 60
set pin 2 to HIGH
wait 1 secs
set pin 2 to LOW
wait 1 secs
void setup()
{
pinMode(2, OUTPUT);
}
void loop()
{
digitalWrite(2, HIGH);
delay(1000); // Wait for 1000 millisecond(s)
digitalWrite(2, LOW);
delay(1000); // Wait for 1000 millisecond(s)
}
Serial Monitor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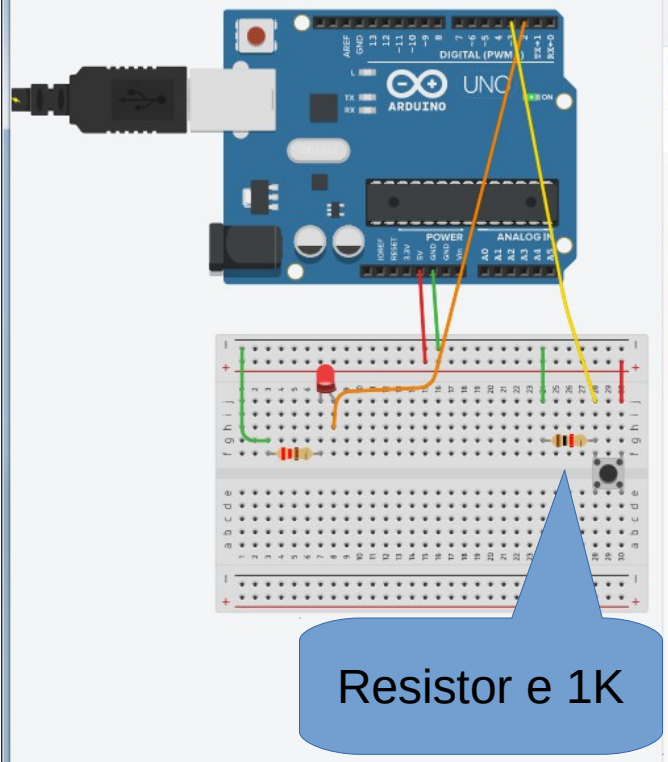
Circuits
Create new Circuit
Editar isto
Propriedades...
Duplicar
Mover para o projeto...
Excluir
Com o mouse sobre circuito
Clique na engrenagem
Para mudar o nome do projeto
Em propriedades
PWM_TestRev2
há 7 dias
Privado
teclado4x4
há 7 dias
Privado
R2R
há 8 dias
Privado
Ingenious Jaagub
há 8 dias
Privado
Doisbotoes_pullup
há 13 dias
Privado
Frantic Snicket
há um mês
Privado

Construa este circuito
E o código no modo Blocks+text



Resistor e 1K

Blocks + Text

Output
Input
Notation
Control
Math
Variables

Create variable...

B

set B to 0

change B by 0

set B to read digital pin 3

if B = 1 then

set pin 2 to LOW

else

set pin 2 to HIGH

```
int B = 0;

void setup()
{
  pinMode(3, INPUT);
  pinMode(2, OUTPUT);
}

void loop()
{
  B = digitalRead(3);
  if (B == 1) {
    digitalWrite(2, LOW);
  } else {
    digitalWrite(2, HIGH);
  }
  delay(10); // Delay a little bit to improve simulat
}
```

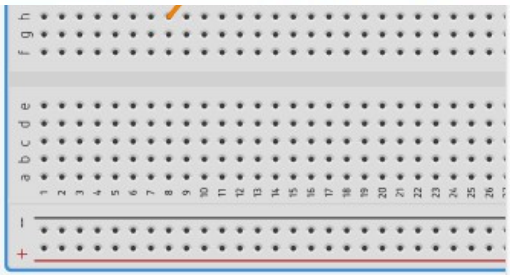
Serial Monitor

Swanky Habbi-Snicket

All changes saved

Se clicar aqui

DIALIGHT P/N	EMITTED COLOR	MATERIAL	LENS COLOR	LUMINOUS INTENSITY (mcd)			DOMINANT WAVELENGTH (nm)			FORWARD VOLTAGE (V)			VIEWING ANGLE
				If = 20 ma			If = 20 ma			If = 20 ma			° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8010-107F	RED	AlInGaP	Water Clear	30	40	80	630	635	642	1.7	2.2	2.4	140
598-8020-107F	RED-ORANGE	AlInGaP	Water Clear	120	150	200	620	625	630	1.7	2	2.4	140
598-8030-107F	ORANGE	AlInGaP	Water Clear	70	-	150	600	-	610	1.7	2	2.4	140
598-8040-107F	YELLOW	AlInGaP	Water Clear	100	130	160	590	-	595	1.7	2	2.2	140
598-8050-107F	YELLOW	AlInGaP	Water Clear	100	130	160	583	-	590	1.7	2	2.4	140
598-8060-107F	YELLOW-GREEN	AlInGaP	Water Clear	20	40	60	570	-	575	1.8	2	2.4	140
598-8070-107F	GREEN	GaP	Water Clear	10	20	40	562	-	570	1.8	2	2.4	140
598-8081-107F	GREEN	InGaN	Water Clear	220	300	400	520	523	525	3	3.2	3.5	140
598-8091-107F	BLUE	InGaN	Water Clear	90	140	160	470	473	475	2.8	3.2	3.5	140



print to serial monitor hello world with

set RGB LED in pins 3 3 3

Serial Monitor