

ROBOCHICAS

“Robotize como uma garota”

Apresenta...





Sobre nós...

Nós somos as RoboChicas.
Um Clube de Robótica do Instituto de
Ciência, Tecnologia e Inovação(UFBA),
composto apenas por mulheres, com o
objetivo de promover a capacitação e
permanência de mulheres nas áreas de
Ciência, Tecnologia e Engenharia
(CT&E).



INTEGRANTES



Ciência da Computação
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— Leticia Silva

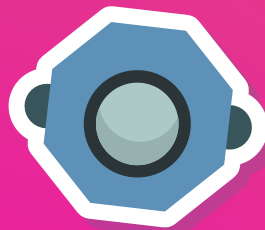


Engenharia de Computação

— Yasmin Solrac Ribeiro



Nesta Oficina...



01

O que é
robotica ?



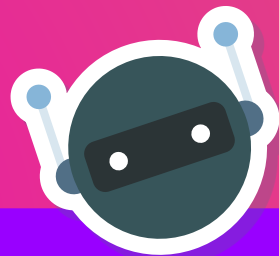
02

Smart Homes &
Automações



03

Sobre o
projeto




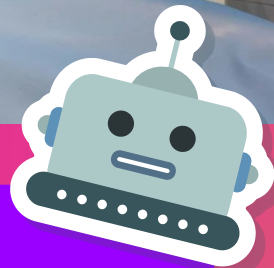


O que é Robotica

“A Robótica é um conjunto de ferramentas criadas pelo homem para automatizar processos com mais rapidez, precisão e qualidade. Para tanto, esse campo de estudo e de pesquisa interliga diversas áreas da Engenharia e da Tecnologia, como a Computação, a Eletrônica e a Mecânica”

-Gabriel Barros, professor de Robótica da ESEG - Faculdade do Grupo Etapa.

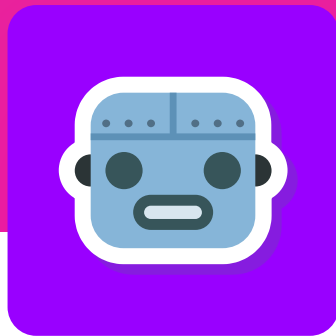




Onde a robótica está
presente em nosso
dia a dia



Internet das Coisas

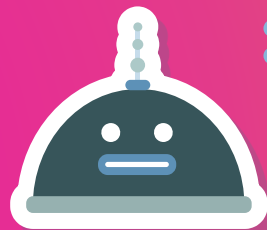
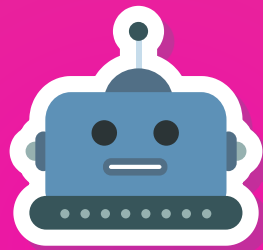
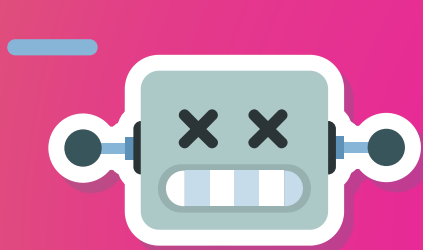


Automações

Automação é o emprego de técnicas computadorizadas ou mecânicas que usam comandos programados para realizar tarefas.



Tipos de Automações



Industrial

Criar mecanismos e ferramentas que sejam capazes de **desenvolver produtos** com a melhor qualidade ao menor custo possível.

Residencial

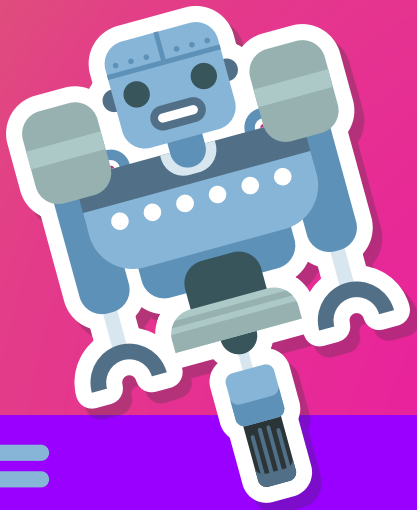
Diz respeito a um conjunto de **tecnologias** com a capacidade de programar eventos **em uma casa** e de **tornar automático** o funcionamento de diversos equipamentos.



Processos

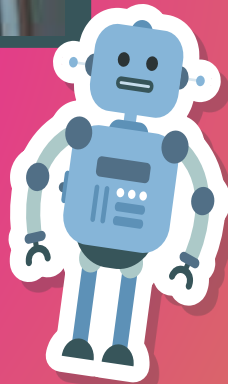
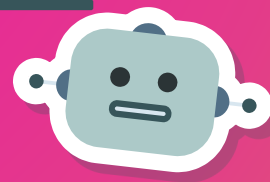
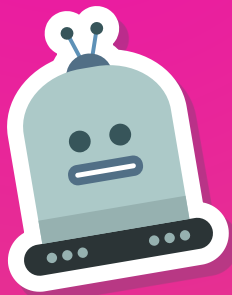
Automação robótica de processos (Robotic Process Automation, **RPA**) é uma tecnologia de software fácil de usar para automatizar tarefas digitais.





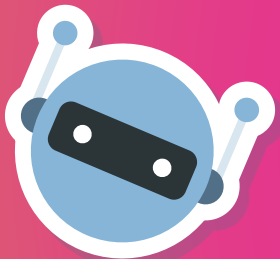
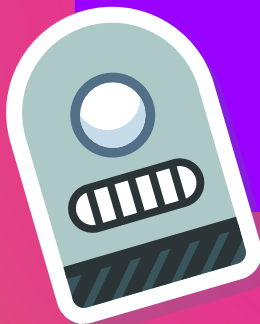
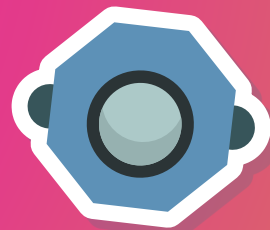
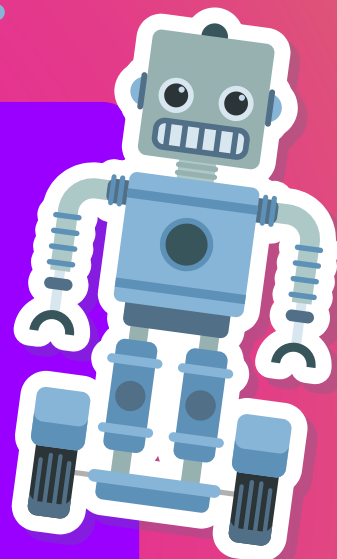
Smart Homes

Graças a esses aparelhos é possível realizar funcionalidades, que até então são feitas manualmente, por meio de comando de voz ou um clique no smartphone.

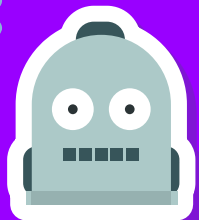


Sobre o Projeto

A montagem do projeto final consiste em construir uma aplicação de Casas Inteligentes, utilizando: microcontroladores, eletrônica e programação.

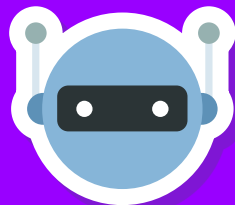


Sobre o Projeto



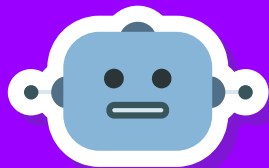
Etapa 1

Apresentar
componentes



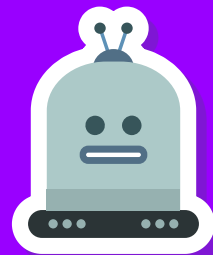
Etapa 2

Montar
Circuito



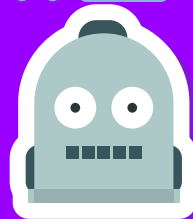
Etapa 3

Montar o
Código



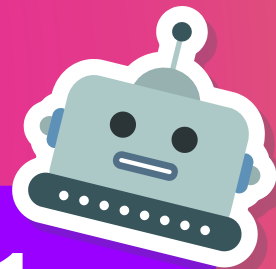
Etapa 4

Montar
Prototipo



Etapa 1

Apresentar
componentes





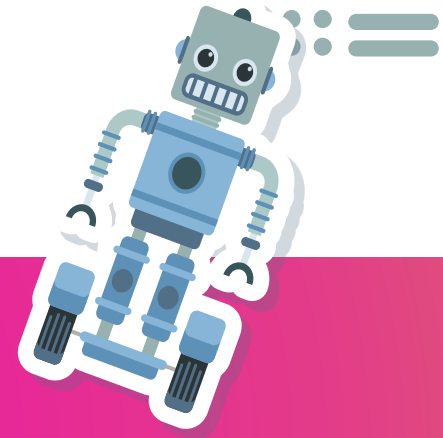
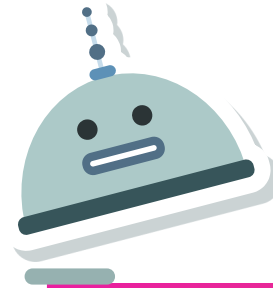
ARDUINO UNO



ARDUINO LEONARDO



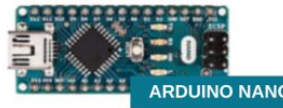
ARDUINO 101



ARDUINO ESPLORA



ARDUINO MICRO



ARDUINO NANO



ARDUINO DUE



ARDUINO MEGA 2560

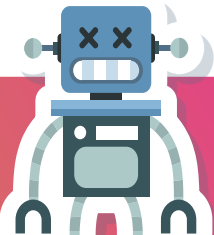


ARDUINO ZERO

⋮ O que é arduino?

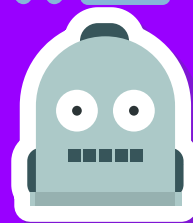
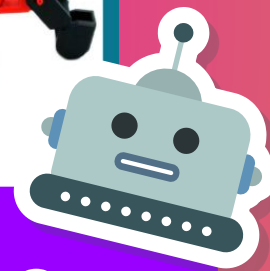
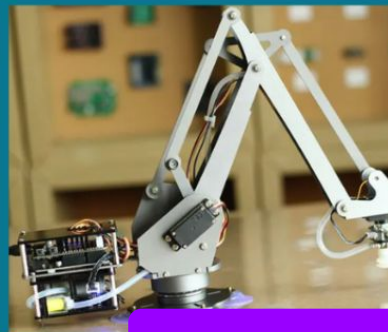
Desenvolvido em 2005 por Massimo Banzi, David Cuarielles, Tom Igoe, Gianluca Martino e David Mellist

- Software e Hardware Livre
- Open Source
- Low Tech



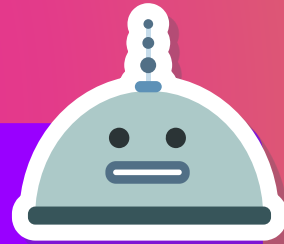
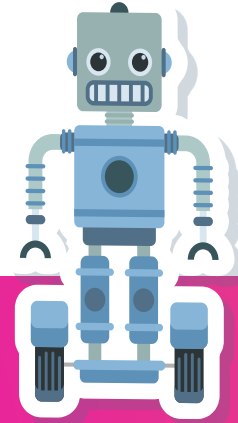
blog do
ROBÔTIMA





Arduino

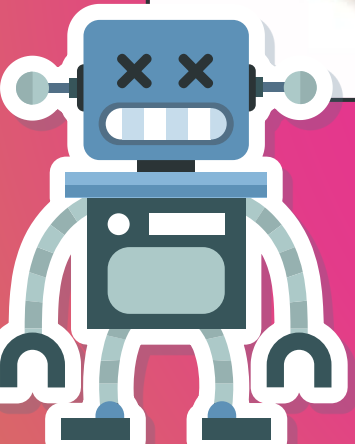
Projetos feitos
com arduino



Jumpers

Conectores ou cabos para
interligar os sensores
ao arduíno

Macho – Macho
Fêmea – Macho
Fêmea – Fêmea



Sensor Ultrassônico HC-SR04 - Pinagem



- 1 - VCC
- 2 - Trig
- 3 - Echo
- 4 - GND

•• Sensor Ultrassônico

Dispositivos que emitem ondas sonoras, com isso, podemos determinar, a distância entre o sensor e o objeto na linha de medição.

Composto por três partes principais:

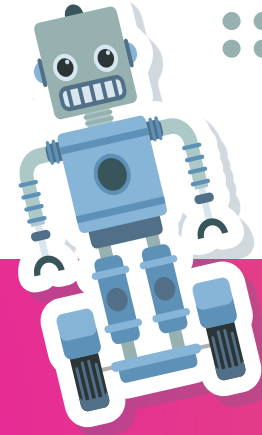
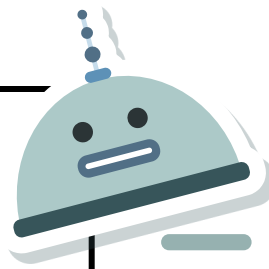
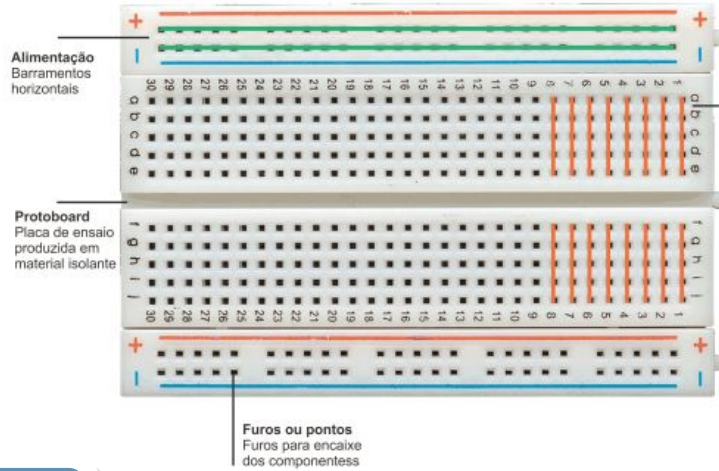
- Transmissor Ultrassônico
- Receptor
- Circuito Controlador





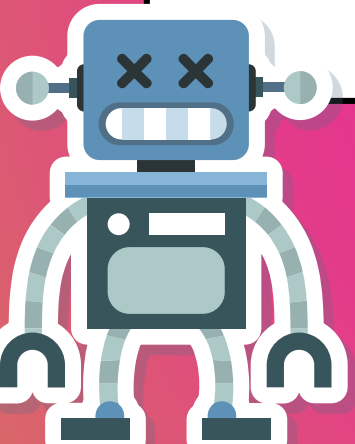
Servo Motor

O Micro Servo SG90 é um motor compacto, pesa apenas 9g e oferece um torque máximo de ~1.6kg, mostrando-se ideal para as mais diversas aplicações em projetos robóticos e eletrônicos em geral.



Protoboard

Com a protoboard é possível construir protótipos de projetos ou ensaiar circuitos, pois, sendo ela reutilizável, evitamos de confeccionar uma placa de circuito impresso e possibilitamos a fácil alteração do circuito, deixando ele flexível.



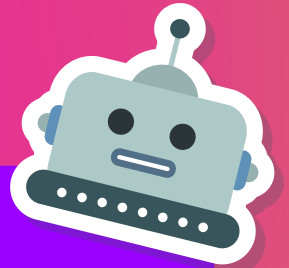
Wokwi

Etapas 2 & 3

Montar
Circuito

&

Montar
Código

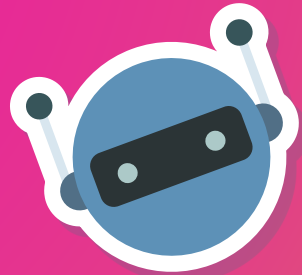
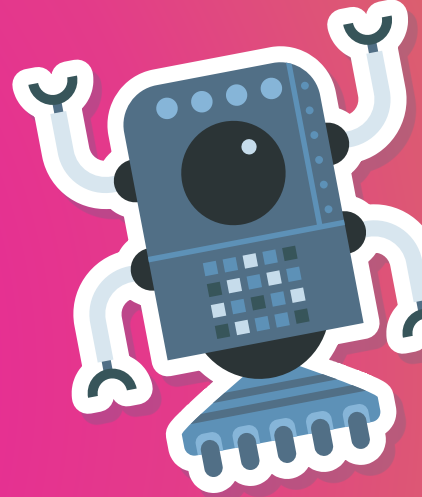
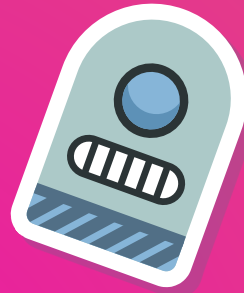
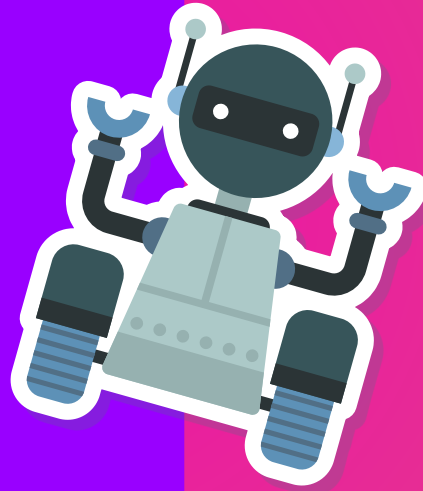


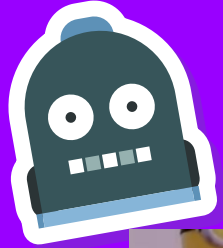


Etapa 04

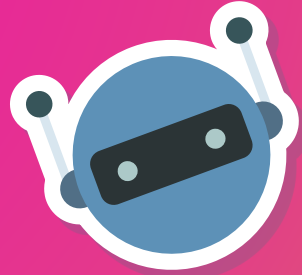
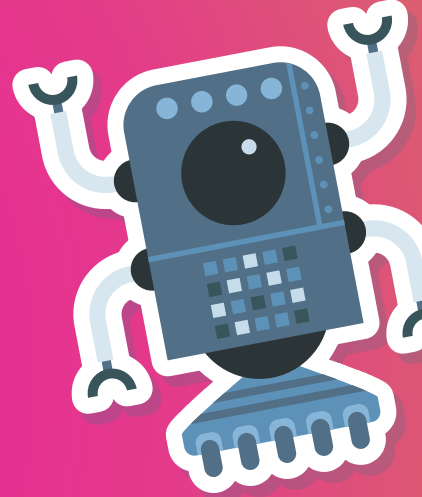
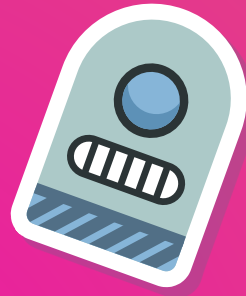
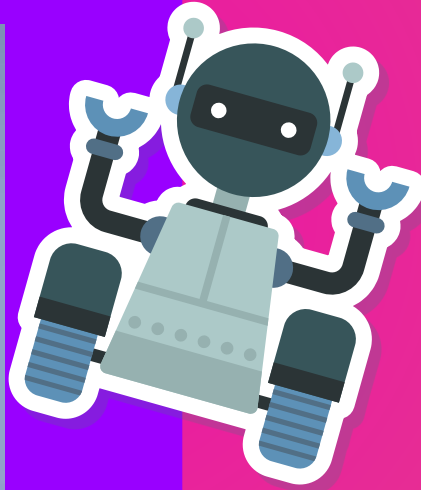
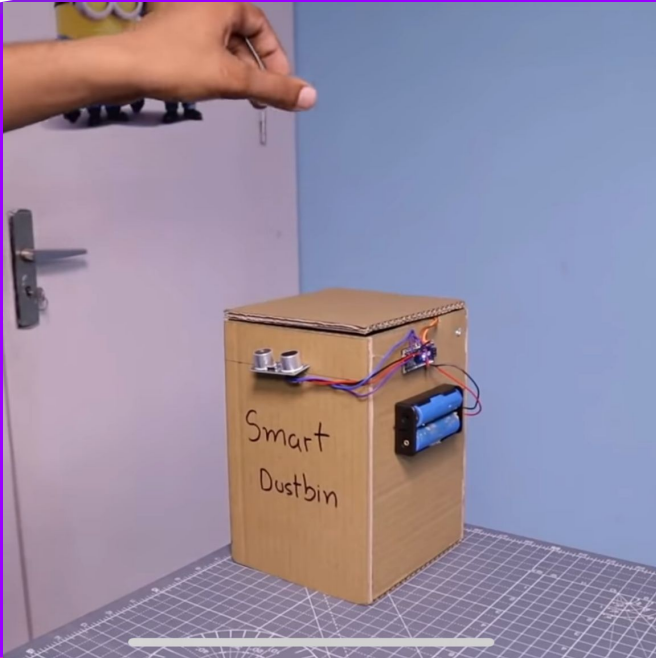
Montagem do Protótipo

Chegamos à última etapa!



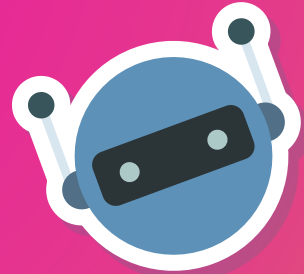
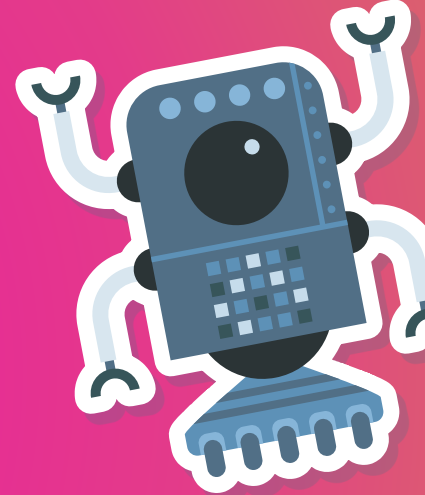
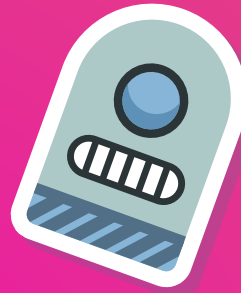
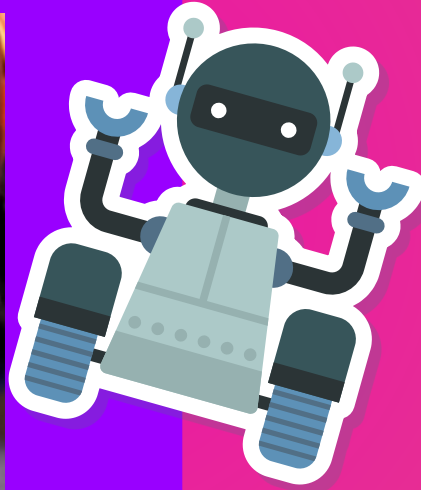


Etapa 04



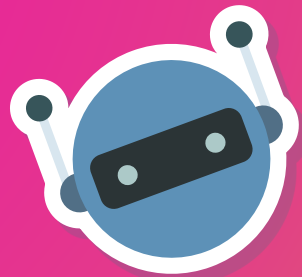
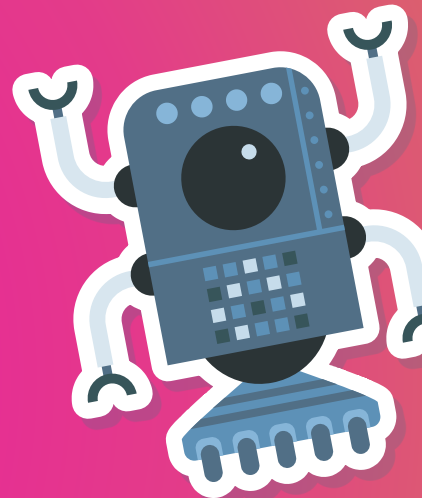
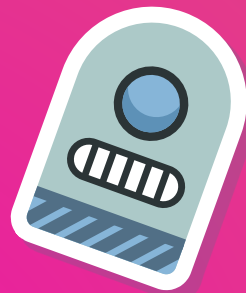
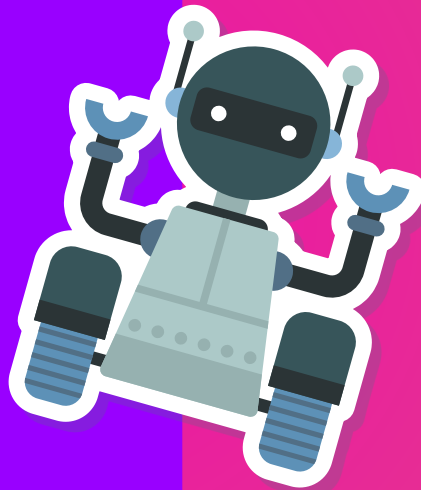
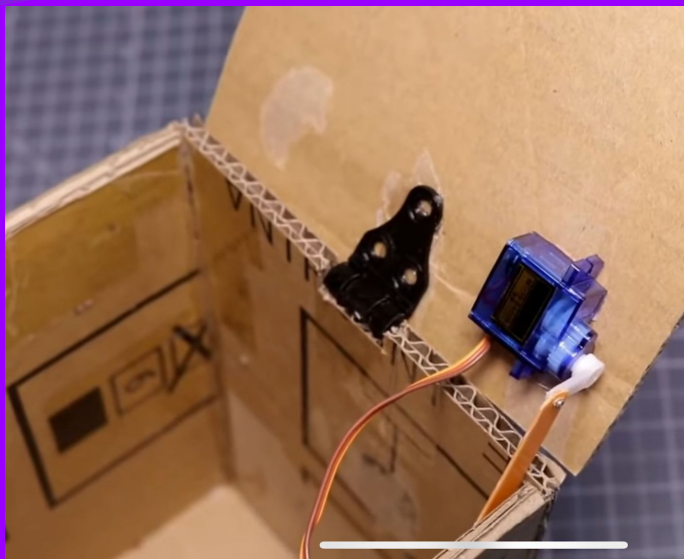


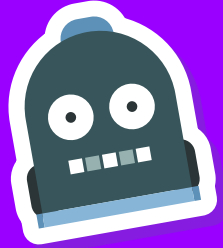
Etapa 04



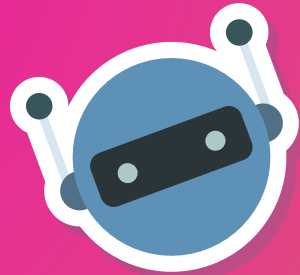
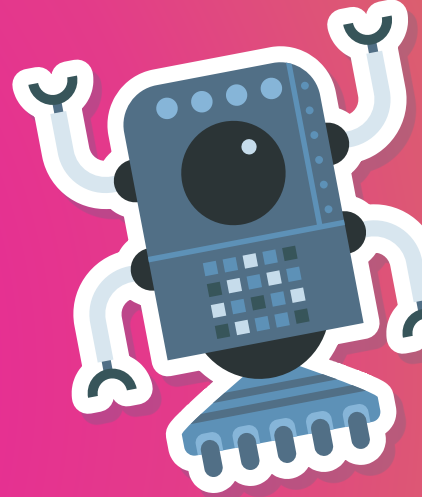
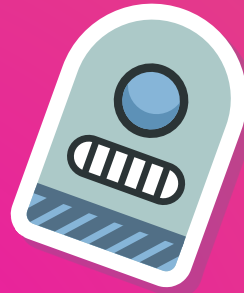
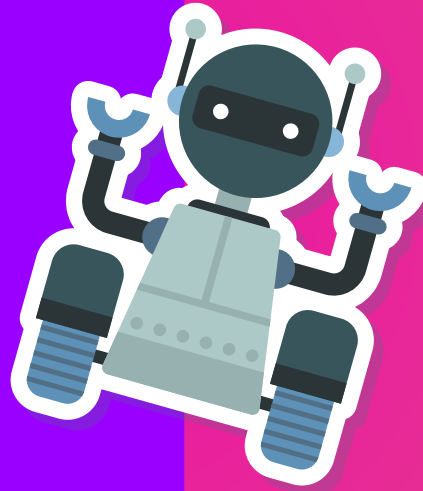


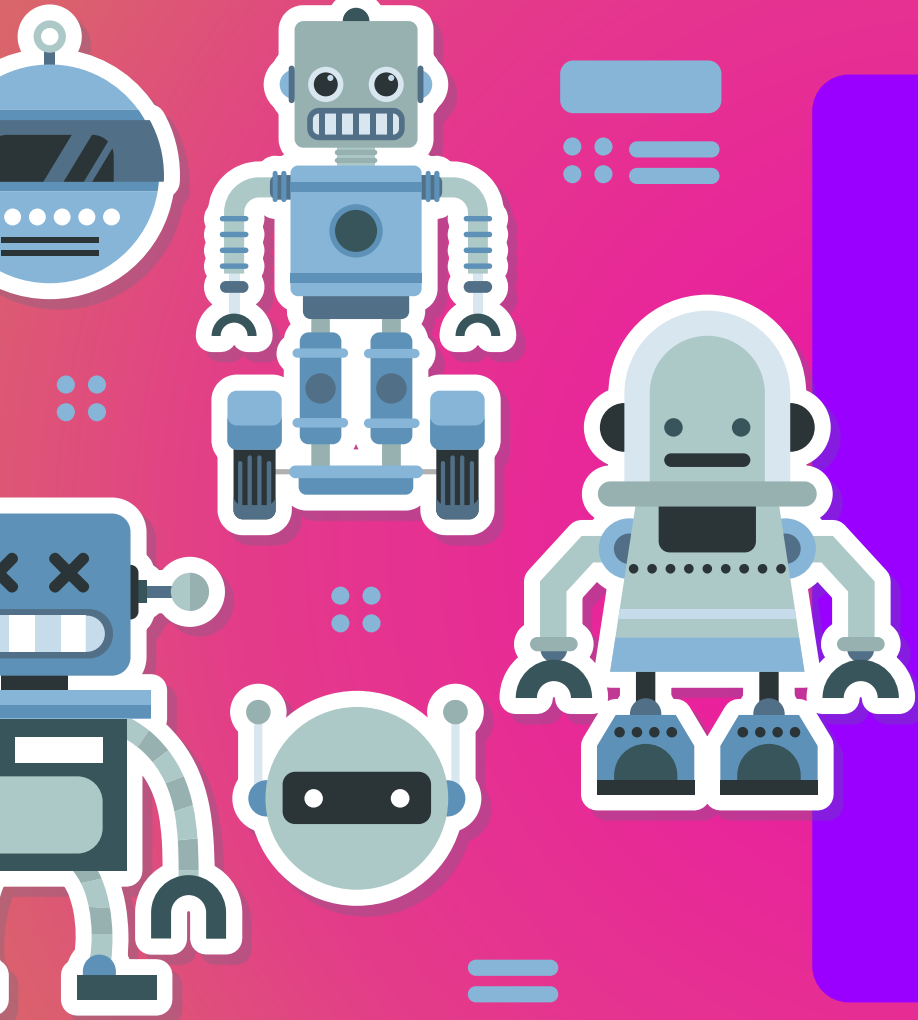
Etapa 04





Etapa 04





Obrigada!

Alguma dúvida?



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