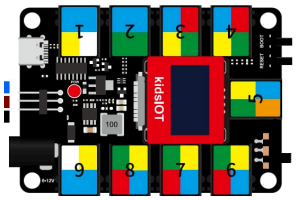
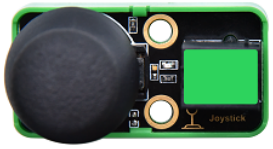
Proyectos

-. Proyecto 05: Máquina para saltar la cuerda

1. Descripción general

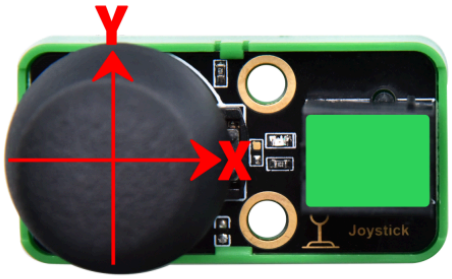
La máquina para saltar la cuerda se utiliza para reemplazar el método tradicional de saltar la cuerda, lo que libera nuestras manos. No solo puede realizar saltos hacia adelante y hacia atrás, sino también cambiar la velocidad de saltar la cuerda según las necesidades.

2. Componentes:

			
Placa Base KidsIOT x1	Módulo Joystick x1	Servo 360º x1	Zumbador pasivo x1
			
Cable de conexión x2	Cable USB x1	Serie Lego x1	

¿Qué es un módulo de joystick?

Este módulo utiliza fuente de alimentación de 5V y comunicación I2C. En el estado original, el voltaje leído por X e Y es de aproximadamente 2,5 V (valor analógico 512), sin embargo, cuando se mueve en la dirección de la flecha, el valor de voltaje leído aumentará a 5 V (valor analógico 1023), y cuando se mueve en la dirección opuesta, el valor disminuirá a 0V (valor analógico 0). En el estado original, es nivel bajo (0) cuando no se presiona el joystick y nivel alto (1) cuando se presiona.



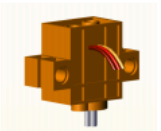
Parámetros:
Voltaje de funcionamiento: 5V
Corriente de trabajo: (máx.) 12mA@5V
Potencia máxima: 0,06W
Tipo de señal: señal analógica X,Y (0,1023) y señal digital (0 o 1)
Interfaz de comunicación: I2C

3. Instalación


x10


x1 (3,2 cm)


x2 (15 agujeros)


x1 (360º Servo)

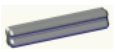

x2


x1


x4

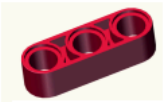

x1


x1


x2 (2,4 cm)


x1

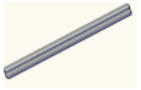

x1


x3 (3 agujeros)


x3

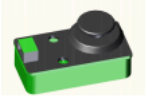

x2


x4


x1 (5,6 cm)


x1 (9,6 cm)

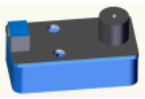

x3 (11 agujeros)

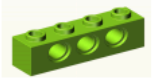

x1


x31


x1


x2 (8 cm)

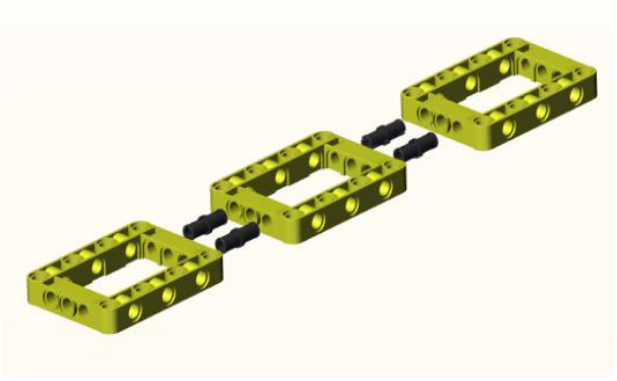

x1

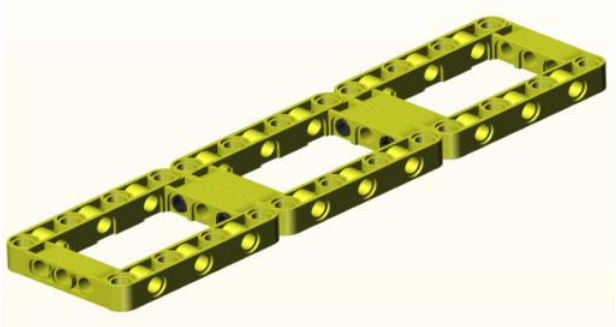

x1 (3 agujeros)

Nota: El color de los bloques de construcción está sujeto al objeto real.

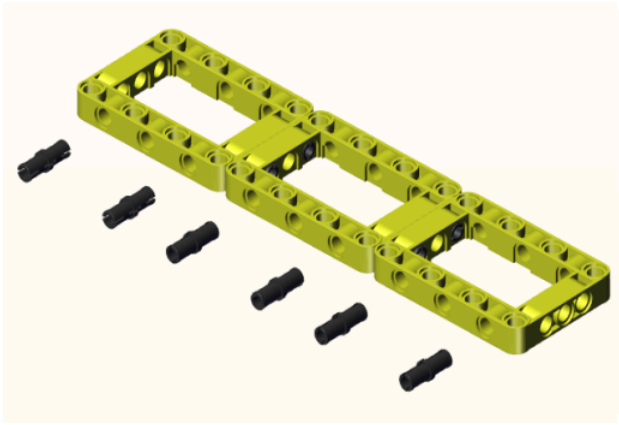

x3

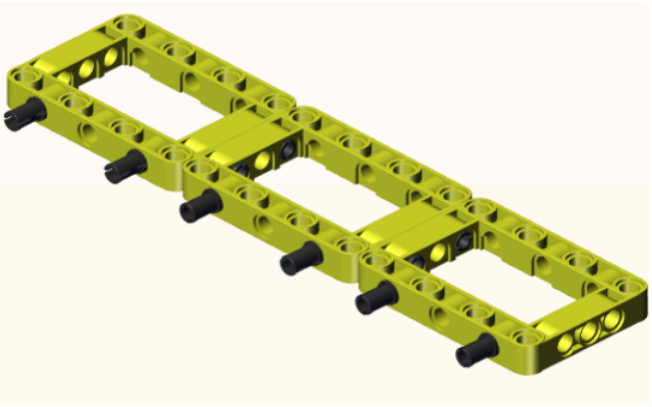

x4



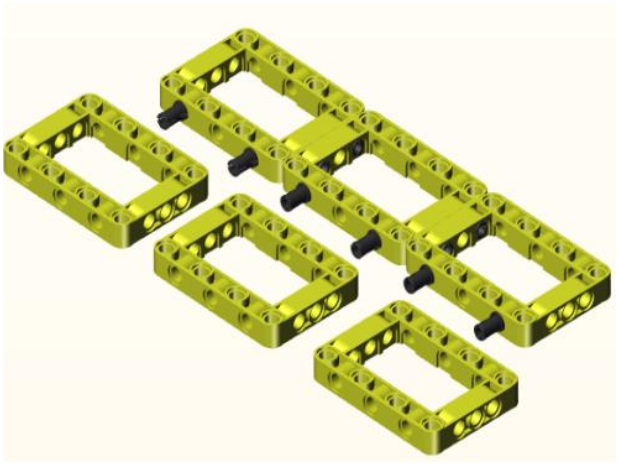


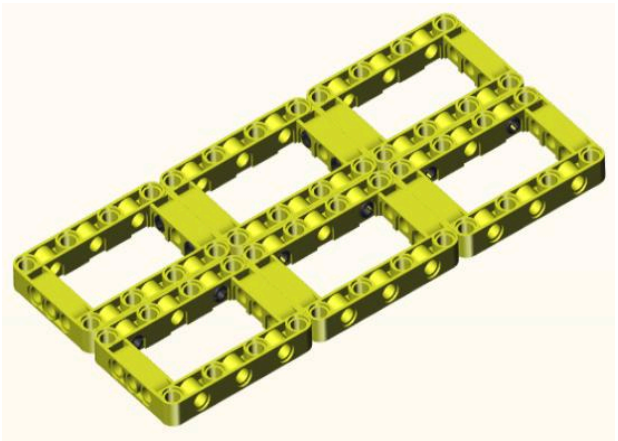
x6





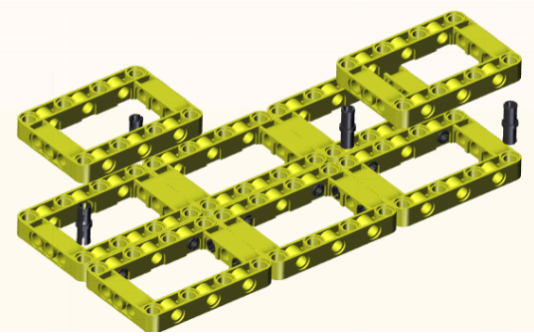
x3

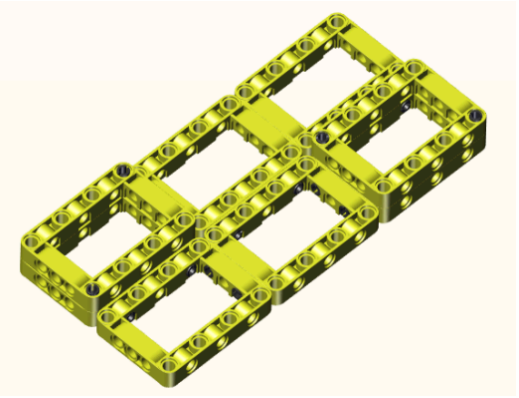




x2

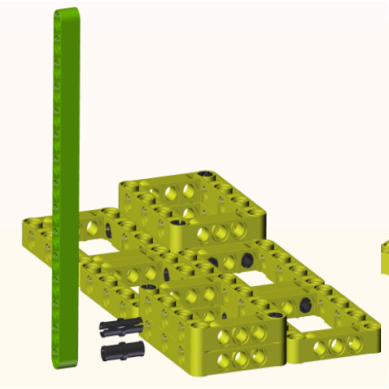
x4

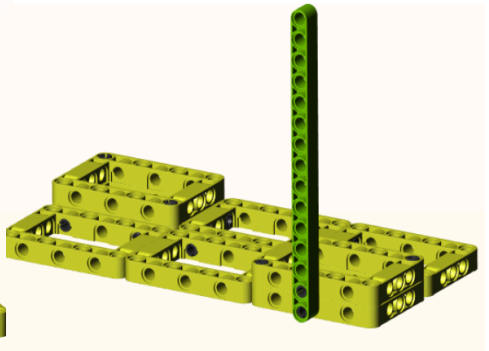




x2

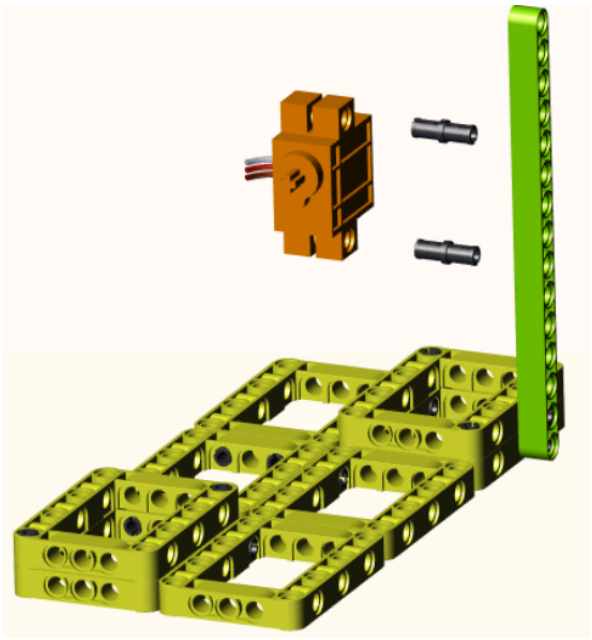
x1 (15 agujeros)

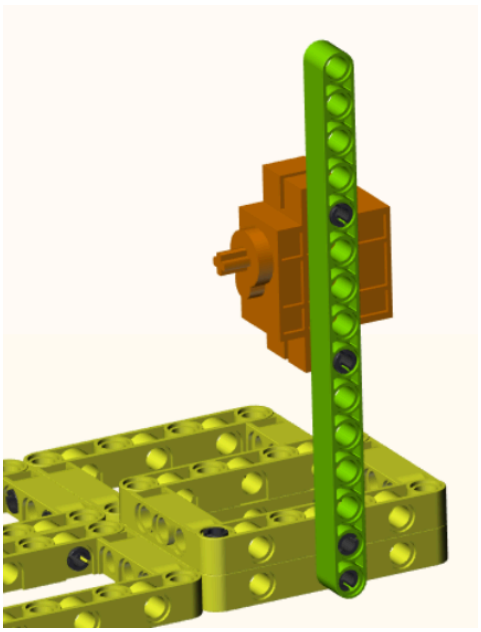




x2

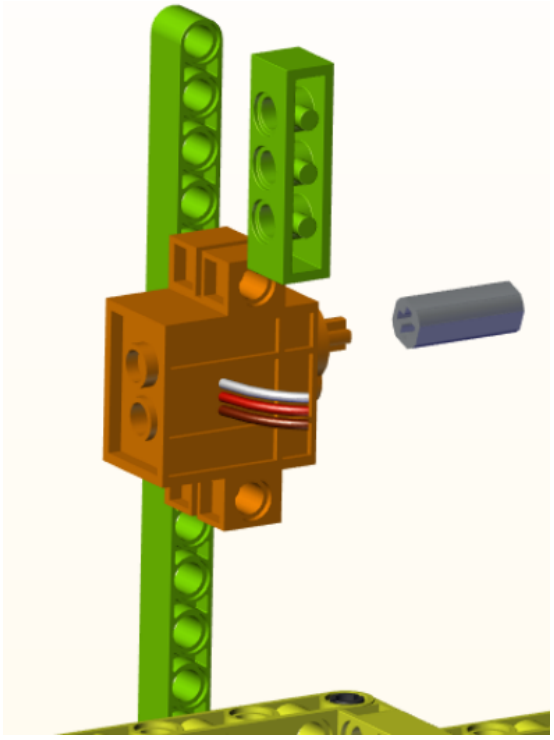
x1

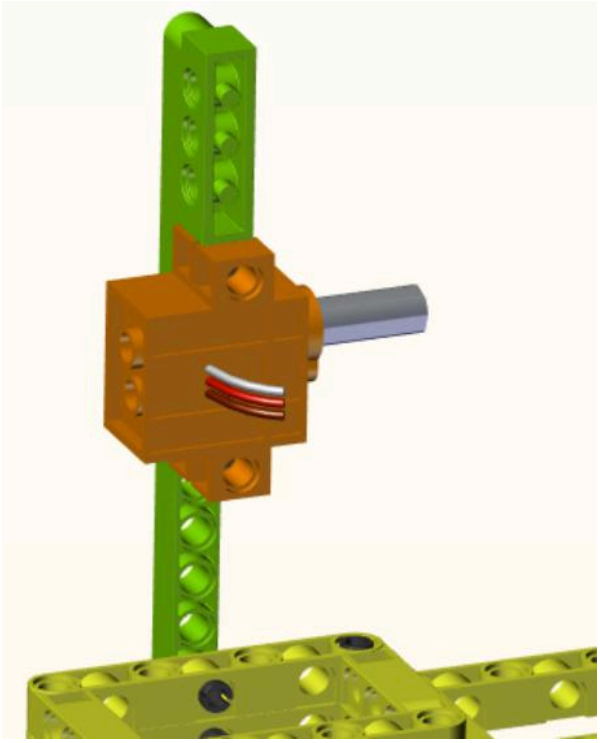




x1

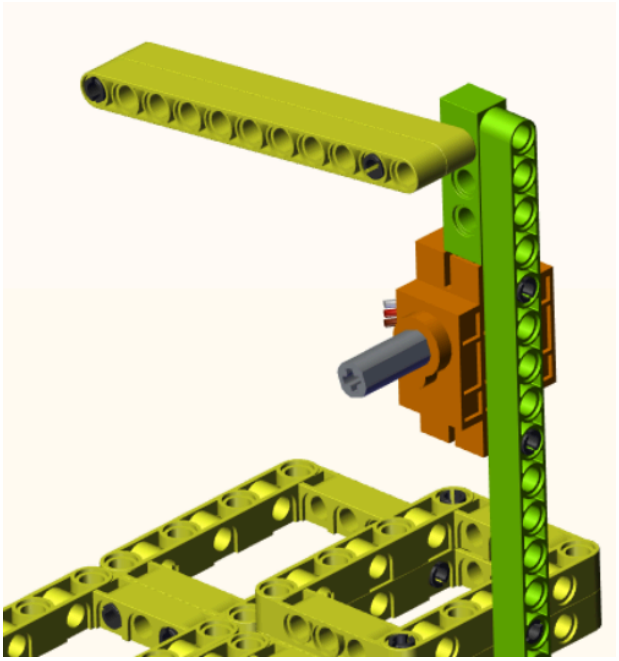
x1 (3 agujeros)

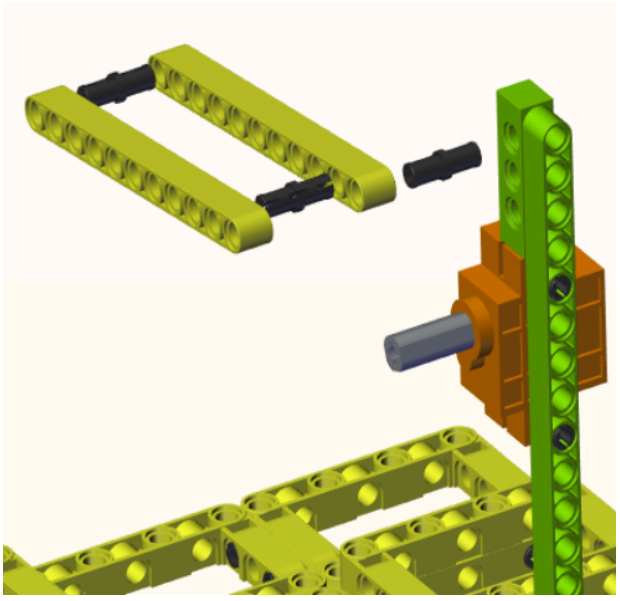




x2 (11 agujeros)

x3



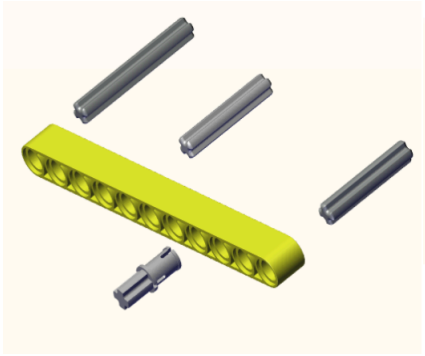


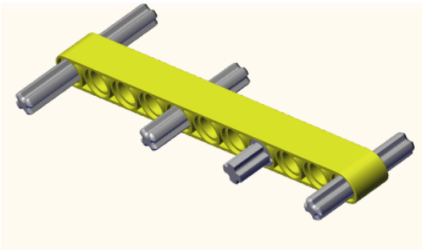
x1 (3,2 cm)

x1

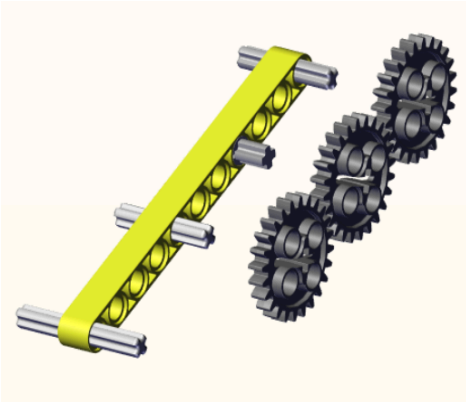
x2 (2,4 cm)

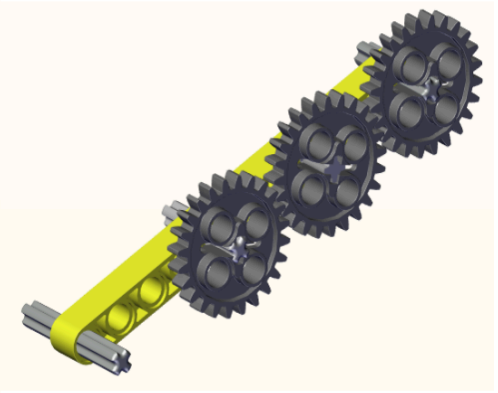
x1 (11 agujeros)



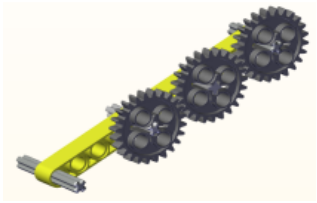


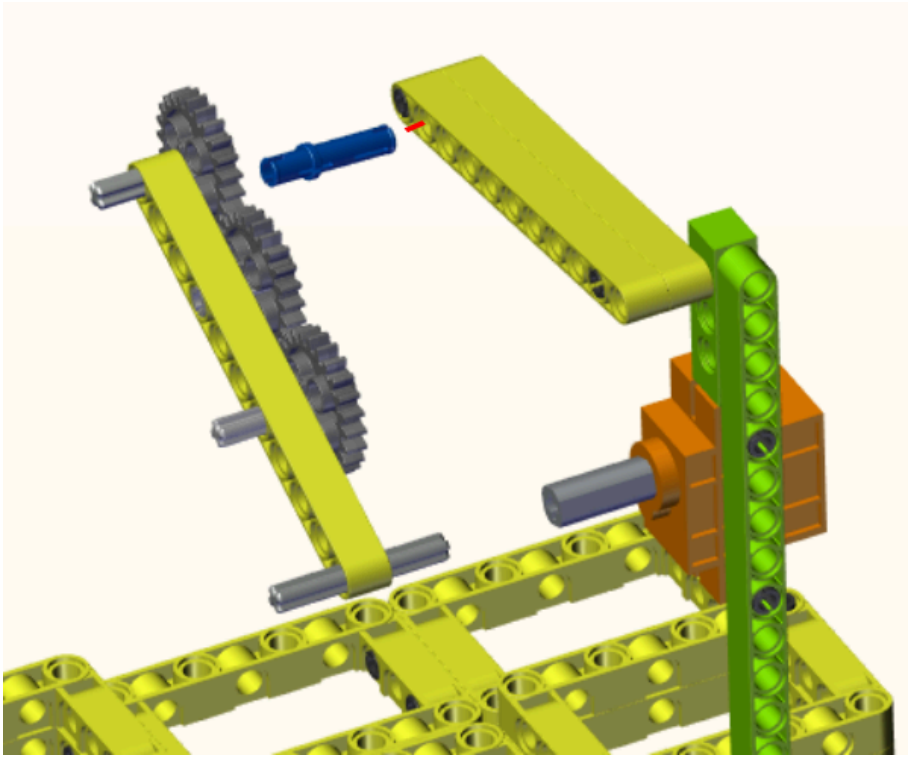
x3

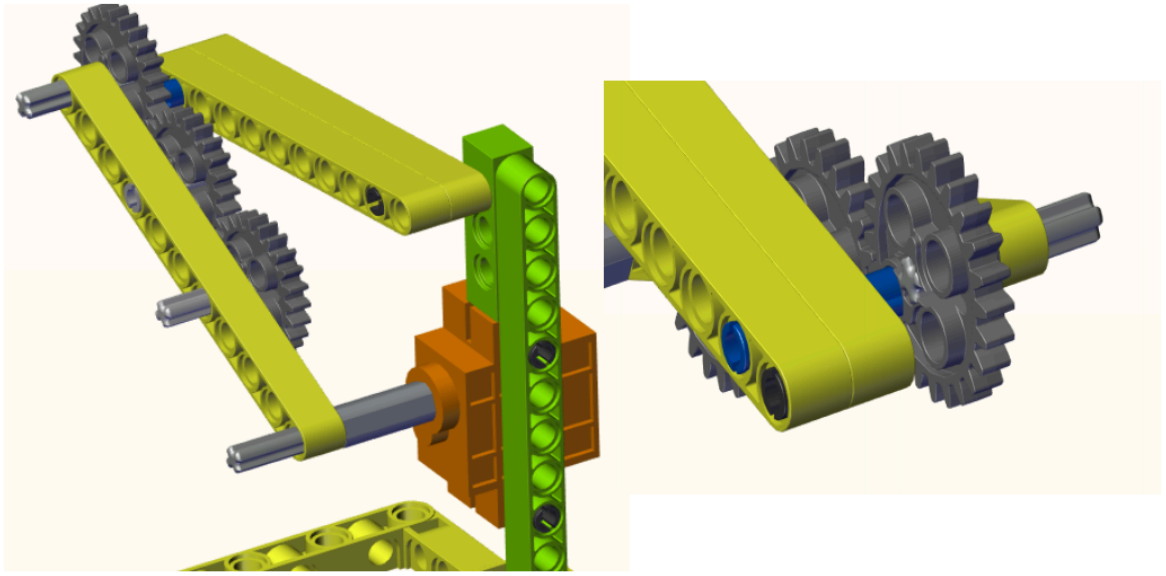




x1







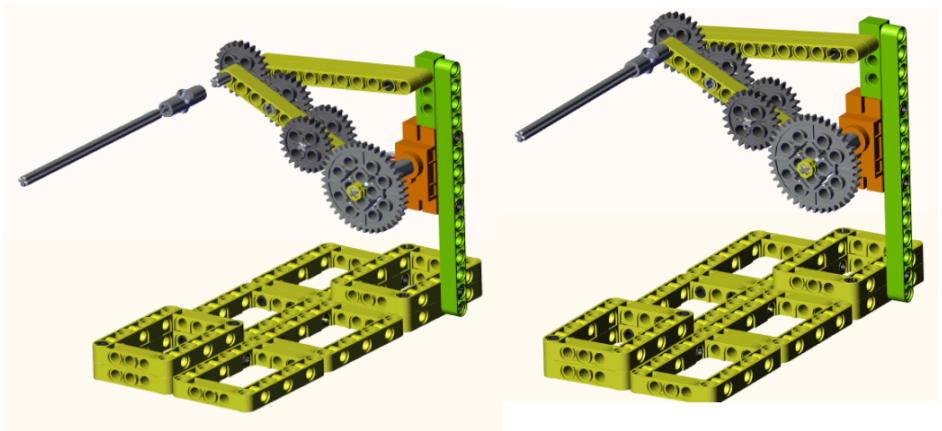
x1 (9,6 cm)

x1

x1

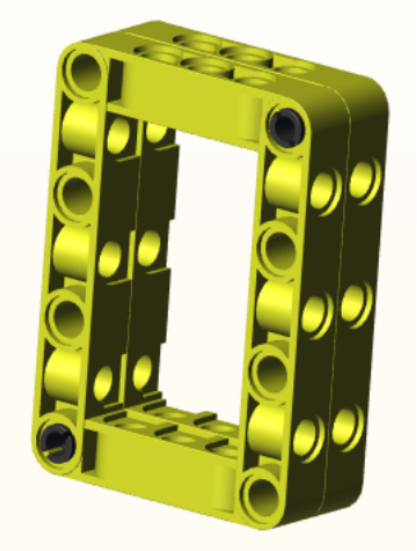
x1

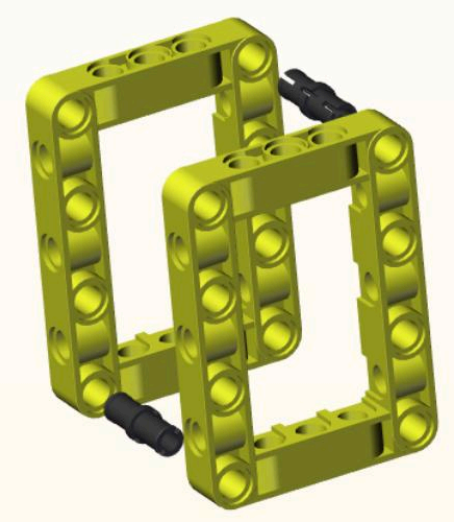
x1



x2

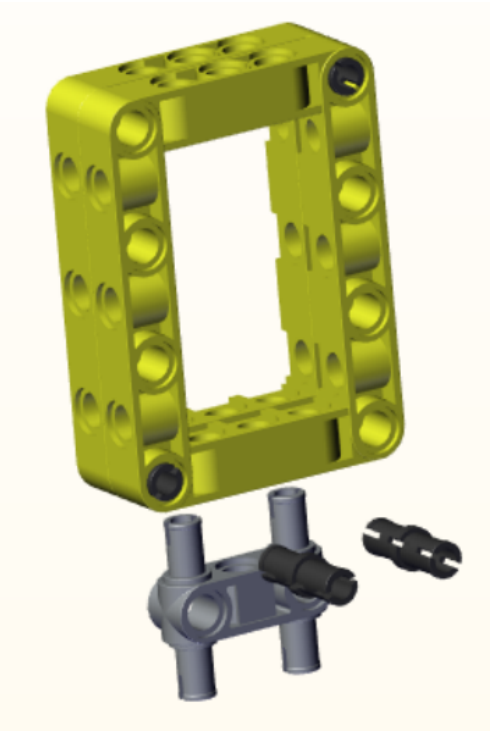
x2

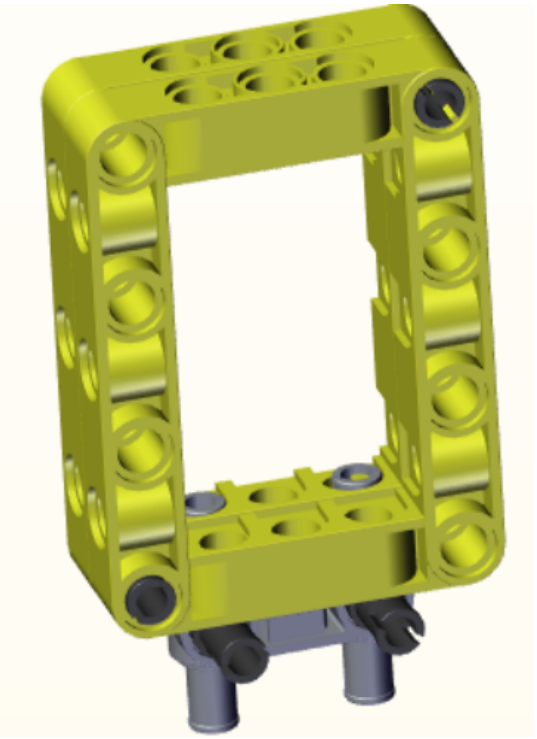




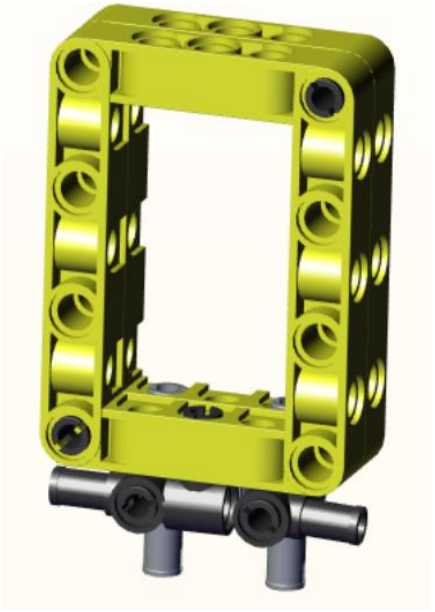
x2

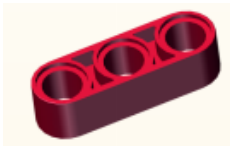
x1



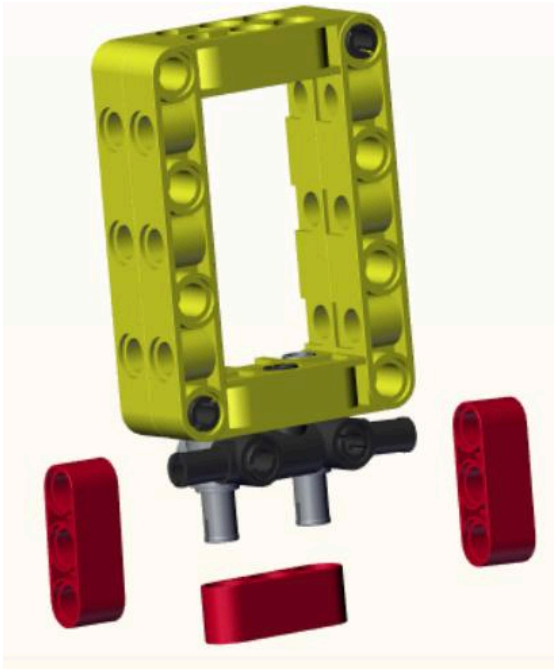


x3





x3 (3 agujeros)

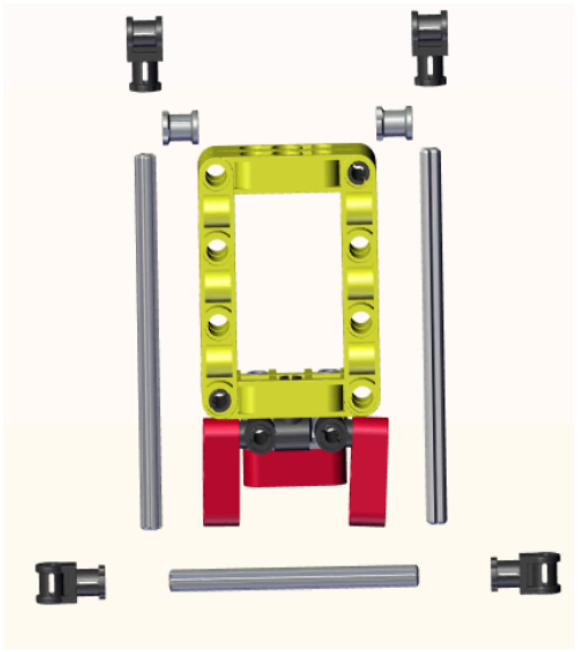


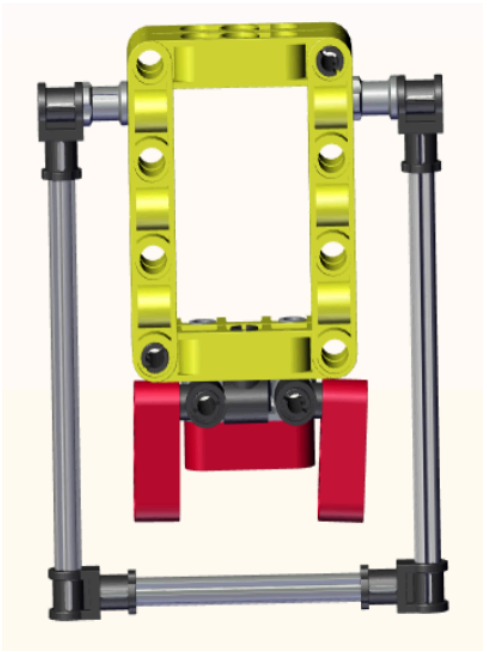

x2

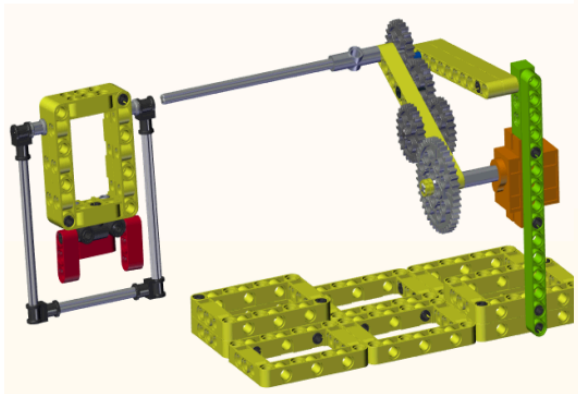

x2 (8cm)

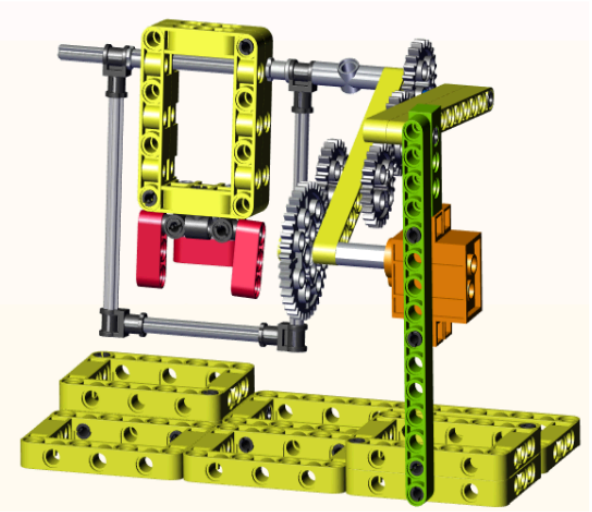

x4


x1 (5,6 cm)





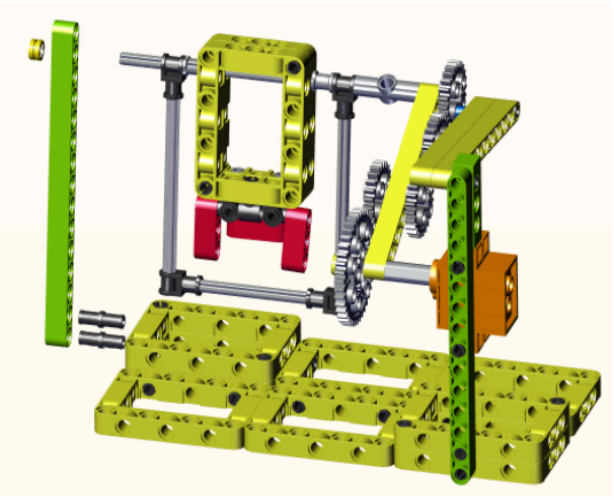


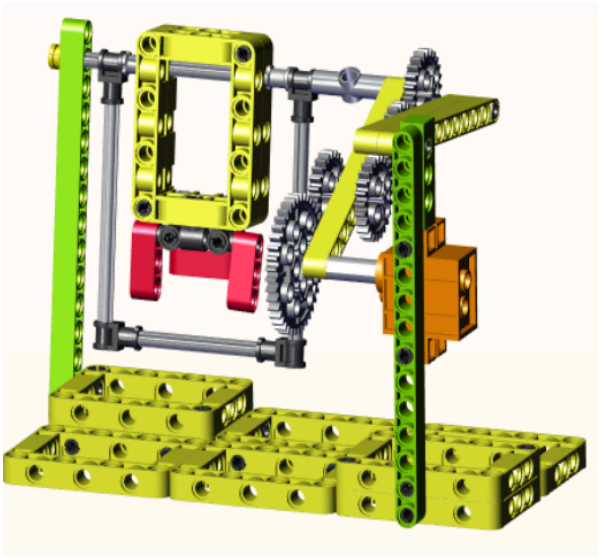


x2

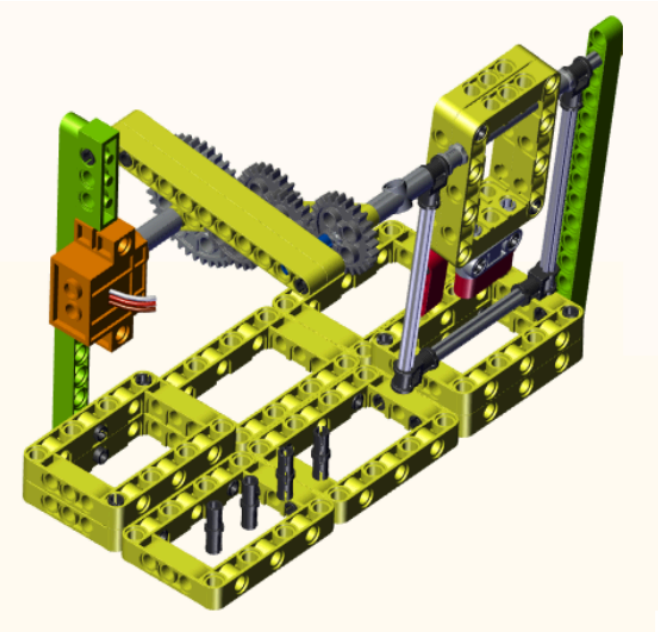
x1

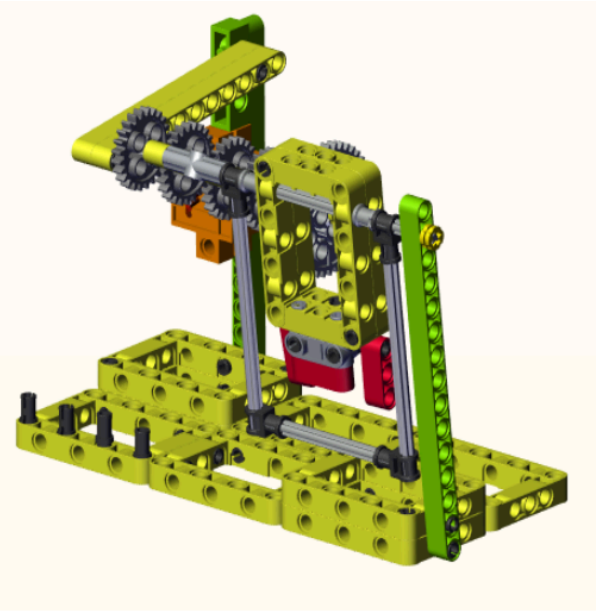
x1 (15 agujeros)



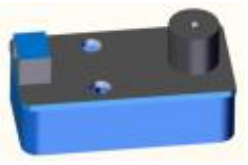


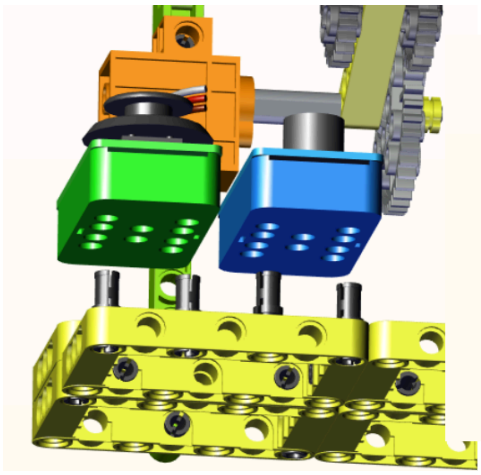
x4

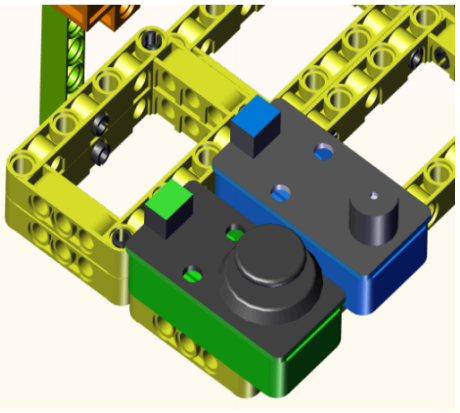


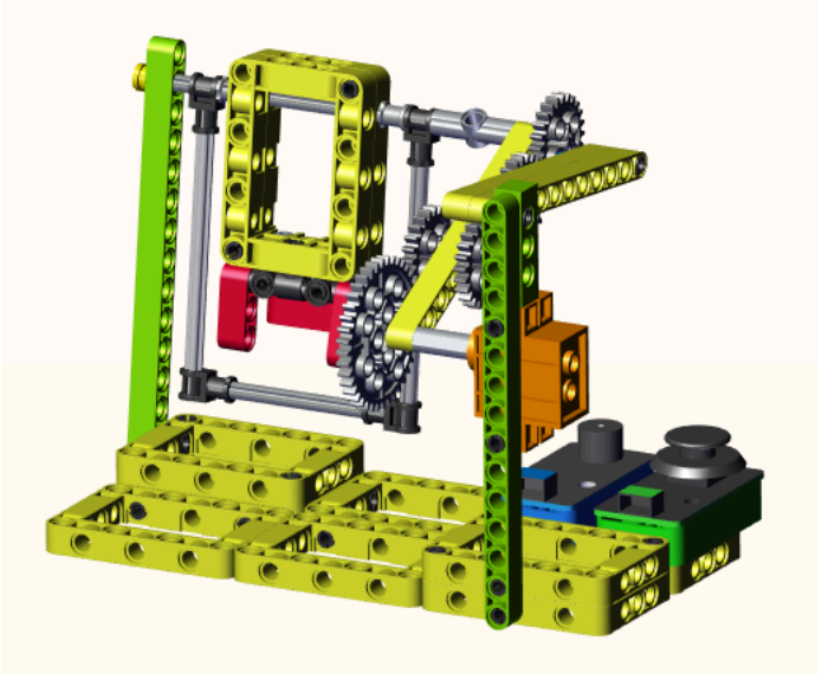



x1

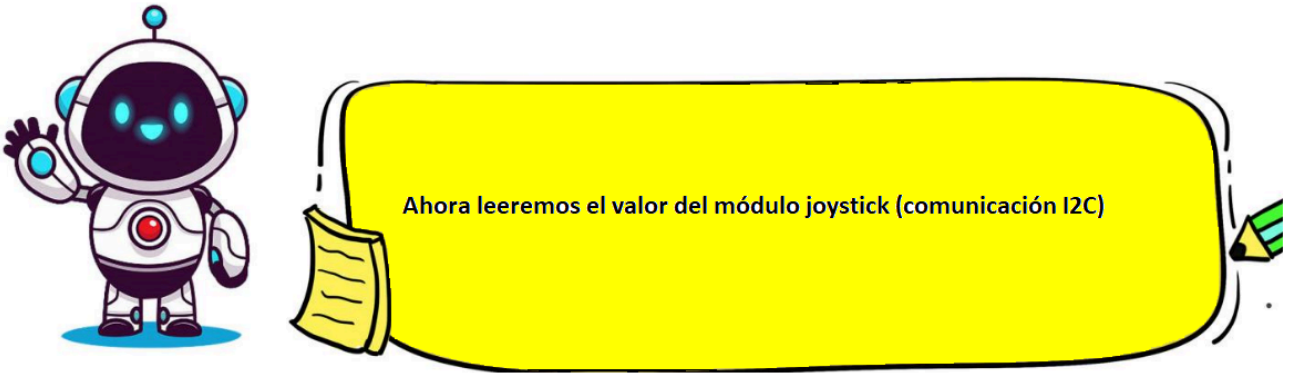

x1







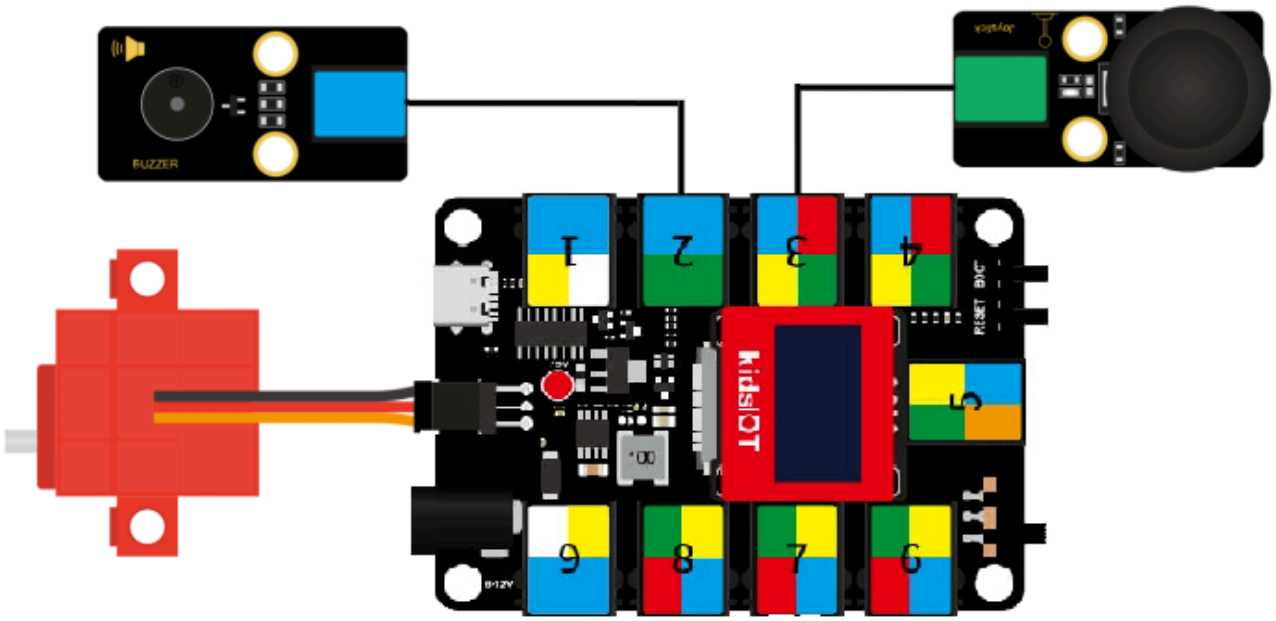
Lea el valor del módulo joystick



4. Pasos de programación

Paso 1: Diagrama de cableado

Conecte la placa base kidsIOT y la computadora mediante un cable USB, y conecte el módulo de joystick a la interfaz No.3, el zumbador pasivo a la interfaz No.2 y el servo de 360° a las interfaces G, V y IO33 de la placa base. El cable marrón está conectado a G, el cable rojo está conectado a V y el cable naranja está conectado a IO33.



Paso 2: Realiza y comprueba tu programa.