In this activity, you will assemble a gripper and program it to open when space key is pressed on the keyboard.

COMPONENTS

1 Servo Motors, Gripper Base Plate, Gripper Link, Gripper Claws, M2 Bolts, M2 Nuts, M3 Bolts, M3 Nuts, M4 Bolts and M4 Nuts.

STEP-BY-STEP

1. Insert *one* of the two **servo motors** that you have, in the rectangular slot of the *Gripper Base Plate*. Fasten the servo to the plate using **12mm M2 bolts** and **M2 nuts**.

STEP 1

STEP 2
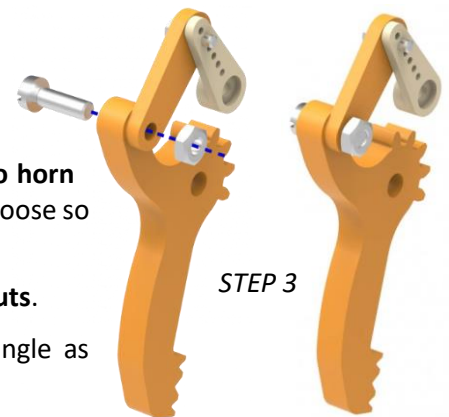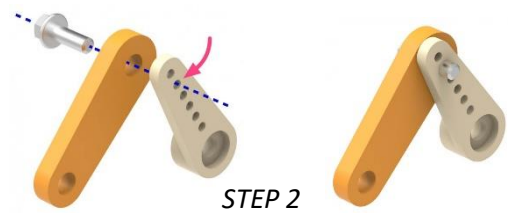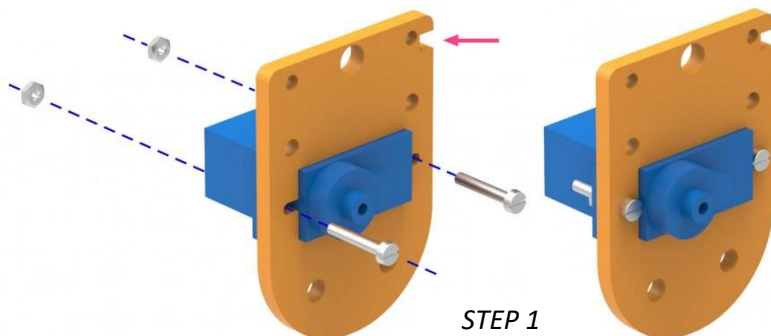
2. Now, fasten the *Gripper Link* to the second hole of the *single sided* **servo horn** using an **M2 screw** (available with the servo motor). Keep the joint slightly loose so that this assembly can move easily.

3. Mount the *Gripper link* to *Gripper Claw 1* using **12mm M3 bolts** and **M3 nuts**.

STEP 3

4. Connect the servo motor to evive servo channel 1 and set the servo angle as **45°** using evive's control menu.

Note the color of three wires of Servo. Brown wire will go towards left in evive.
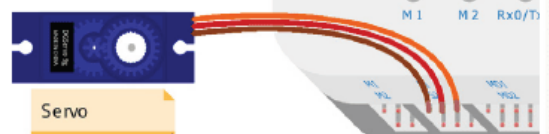
5. Fasten the entire assembly to the *Gripper Base Plate – Servo Motor* assembly such that the single sided servo horn locks onto the free servo head as shown in the corresponding figure.

6. Place the two **gripper claws** such the gears *mate* i.e. the gear teeth fix into each other. Now, fasten both the claws to the *Gripper Plate* using **16mm M4 bolts** and **M4 nuts**.

7. Fasten the servo horn to the servo head using the **M2 screw** available in the servo accessories.

8. Connect the servo motor to evive one more time, and vary the servo angle between **45°** and **90°** using the evive control menu. The gripper claws should open at **45°** and close at **90°**.

M4 Lock Nuts

STEP 5-6   *STEP 7*

9. If it doesn't, then set the servo angle again as **45°** and adjust the orientation of the servo horn and the gripper claws such that the assembly works properly.
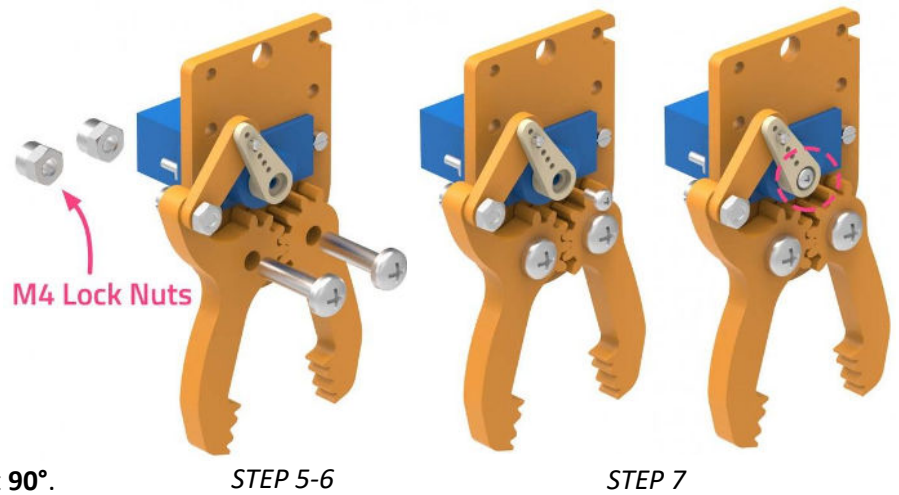
PROGRAMMING

1. Connect evive to the computer and start a new **PictoBlox** program.

2. Go to the menu and click on the Boards and select the evive.

3. Once you've selected the board, click on the Connect tab and connect the board.

4. Upload the stage mode firmware in evive to work in stage mode.
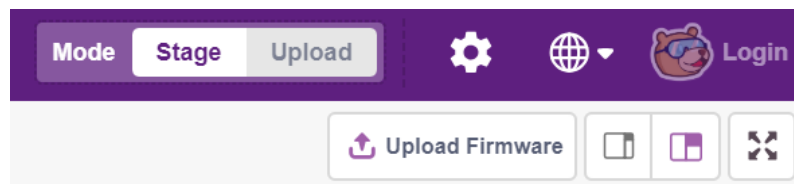
5. In this script we want to open the gripper only when the SPACE key is pressed, otherwise close the gripper. Make the script according to the logic.

6. Click on the green flag to start the script.