

# FlipRobot

**E300**

**Project 1**

**Robotic Pet Training**



## **E300 Project 1 Robotic Pet Training**

### **Mission 4 FlipRobot Puppy Off the Leash**

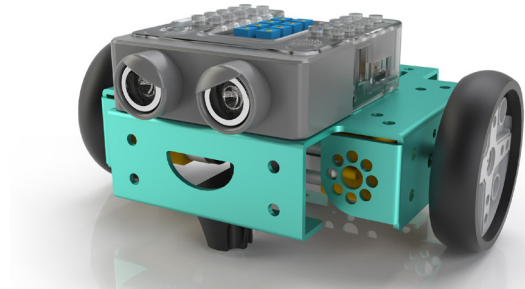
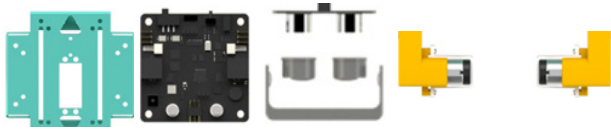
Your puppy has progressed in its training so well we are ready to take them off the leash. We will now be looking to have our puppy run around in the yard without running into any fences.

### **Learning Objects**

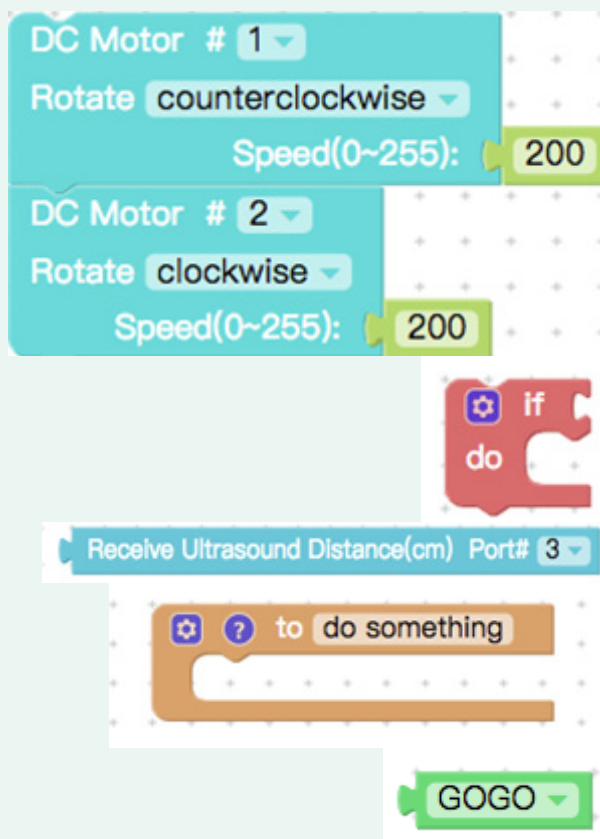
- Learn to use ultrasound to control robot movements.
- Learn variable programming concept and applications.
- Learn to program ultrasonic sensor detection distance in FlipCode.

# FlipRobot

## Hardware Required



## FlipCode Blocks Required



DC motor block

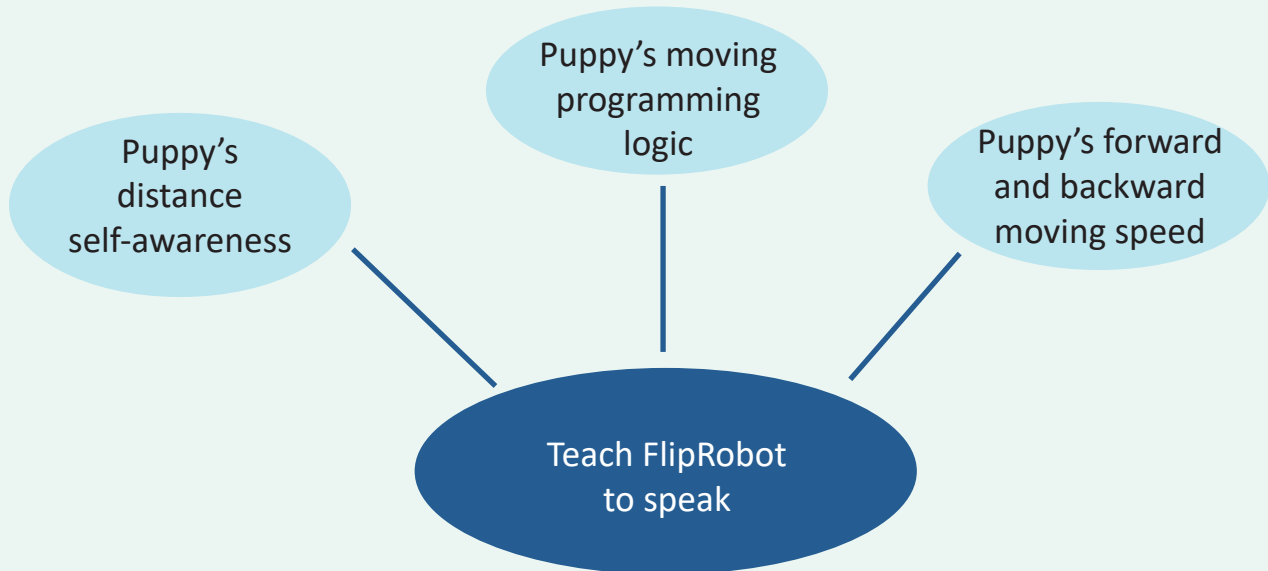
If and Then logic block

Ultrasound sensor block

'To do something' functions block

Variable block (name it 'GOGO')

## Scenario Brainstorming



## Programming Logic Flow and Code

Puppy moves

Make puppy move forward

Make puppy stop moving

Puppy spins to the right

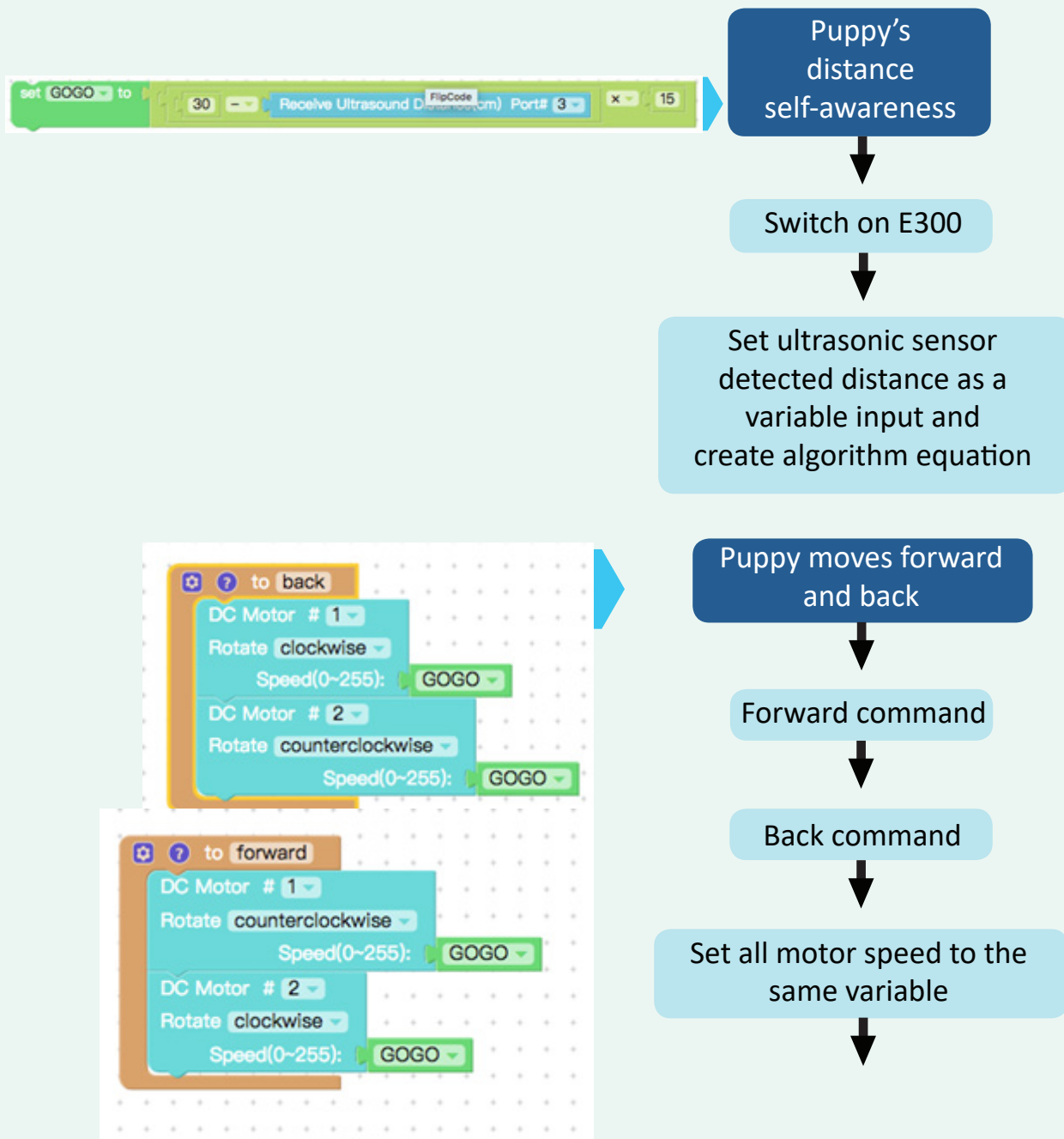
Puppy spins to the left

These five commands have been created in mission 1 and 2, so you can use them directly in this mission.

Tips: Set all the motor speed to the same variable 'GOGO', in order to make your FlipRobot puppy adjust its moving speed consistently depending on the ultrasound distance detected. By doing this, your FlipRobot puppy's movement style will be more lively.

# Fl!pRobot

## Programming Logic Flow and Code



Tips: If the variable value  $> 0$ , it means Fl!pRobot puppy's senses object coming close it, then it needs to move back. If the variable value  $< 0$ , it means Fl!pRobot puppy's senses object is further away, then it is safe to move forward.

# Fl!pRobot

