* **Servo 1**: Base rotation (left-right)
* **Servo 2**: Shoulder (up-down)
* **Servo 3**: Elbow
* **Servo 4**: Wrist
* **Servo 5**: Gripper (open/close)

Goal: Pick an object from one position and place it at another

#include <ESP32Servo.h>

// Define servo pins (change as per your wiring)

const int servoPins[5] = {13, 12, 14, 27, 26};

Servo servos[5];

// Define positions [Base, Shoulder, Elbow, Wrist, Gripper]

int homePosition[5] = {90, 90, 90, 90, 0}; //1

int pickPosition[5] = {100, 120, 60, 90, 0}; //2

int gripClosed[5] = {100, 120, 60, 90, 45}; // 3 Gripper closed to pick

int placePosition[5] = {70, 100, 80, 90, 45}; // 4

int gripOpen[5] = {70, 100, 80, 90, 0}; // 5 Gripper open to release

void setup() {

Serial.begin(115200);

for (int i = 0; i < 5; i++) {

servos[i].attach(servoPins[i]);

servos[i].write(homePosition[i]); // Go to home position

}

delay(2000);

// Start pick and place

Serial.println("Starting pick and place...");

pickAndPlace();

Serial.println("Pick and place completed.");

}

void loop() {

// Nothing in loop; runs once on startup

}

void pickAndPlace() {

// Move to pick position

moveToPosition(pickPosition);

delay(500);

// Close gripper to pick object

moveToPosition(gripClosed);

delay(500);

// Move to place position with object

moveToPosition(placePosition);

delay(500);

// Open gripper to release object

moveToPosition(gripOpen);

delay(500);

// Return to home

moveToPosition(homePosition);

delay(500);

}

// Helper to move all servos to target angles

void moveToPosition(int targetAngles[5]) {

for (int i = 0; i < 5; i++) {

servos[i].write(targetAngles[i]);

}

}