

5. Control all servo

1. API Introduction

The API corresponding to controlling 6 bus servos at one time is:

Arm_serial_servo_write6(S1, S2, S3, S4, S5, S6, time)

Function: Simultaneously control the angle to which the six servos of the robotic arm are to move.

Parameter explanation:

S1: Angle value of No. 1 servo 0~180.

S2: Angle value of No. 2 servo 0~180.

S3: Angle value of No. 3 servo 0~180.

S4: Angle value of No. 4 servo is 0~180.

S5: Angle value of No. 5 servo is 0~270.

S6: Angle value of servo No. 6 is 0~180.

Time: Controls the time the servo runs. Within the valid range, the servo rotates at the same angle. The smaller the input running time, the faster the servo moves. Entering 0 will cause the servo to run at the fastest speed.

Return value: None.

2. Code content

Code path:

```
~/dofbot_ws/src/dofbot_ctrl/scripts/05.ctrl_all.ipynb
```

```
#!/usr/bin/env python3
#coding=utf-8
import time
from Arm_Lib import Arm_Device
# Create robot arm object
Arm = Arm_Device()
time.sleep(.1)
```

```
# Control the movement of six servos at the same time and gradually change the
angle.
def ctrl_all_servo(angle, s_time = 500):
    Arm.Arm_serial_servo_write6(angle, 180-angle, angle, angle, angle, angle,
s_time)
    time.sleep(s_time/1000)
def main():
    dir_state = 1
    angle = 90

    # Reset the servo to center
```

```

Arm.Arm_serial_servo_write6(90, 90, 90, 90, 90, 90, 500)
time.sleep(1)

while True:
    if dir_state == 1:
        angle += 1
    if angle >= 180:
        dir_state = 0
    else:
        angle -= 1
    if angle <= 0:
        dir_state = 1

    ctrl_all_servo(angle, 10)
    time.sleep(10/1000)
# print(angle)
try :
    main()
except KeyboardInterrupt:
    print(" Program closed! ")
    pass

```

```

del Arm # Release Arm object

```

Open the program file from jupyter lab and click the Run entire notebook button on the jupyter lab toolbar. You can see that the six servos of the robotic arm rotate at the same time and the robotic arm continuously changes its posture.



If you want to quit, click the Stop button on the toolbar.

