1. Introduction of API

The API corresponding to control 5 servos:

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

Function: control 6 bus servos rotate to specific angle.

Parameter explanation:

S1: No.1 servo angle 0~180.

S2: No.2 servo angle 0~180.

S3: No.3 servo angle 0~180.

S4: No.4 servo angle 0~180.

S5: No.5 servo angle 0~270.

S6: No.6 servo angle 0~180.

time: Control the running time of the servo. Within the effective range, the servo rotates at the same angle. The smaller the input running time, speed is faster.

If wen input 0, the servo will rotate with fastest speed.

Return value: None.

2. About code

Path: /home/dofbot/Dofbot/3.ctrl_Arm/5.ctrl_all.ipynb

```
#!/usr/bin/env python3
#coding=utf-8
import time
from Arm_Lib import Arm_Device

# Get a robotic arm object
Arm = Arm_Device()
time.sleep(.1)
```

```
# Control six servos at the same time, gradually changing 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

    # Middle servo
    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 the Arm object
```

Open the program file in jupyter lab, and click the run button on the toolbar, you can see that all servos on DOFBOT will rotate at the same times.

Click the stop button on the toolbar to exit this program.