Control All Servos

1. API Introduction

The API corresponding to controlling 6 bus servos simultaneously is:

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

Function: Simultaneously control the angles to which the six servos of the robotic arm should move.

Parameter explanation:

```
S1: Angle value of servo 1, range 0~180.

S2: Angle value of servo 2, range 0~180.

S3: Angle value of servo 3, range 0~180.

S4: Angle value of servo 4, range 0~180.

S5: Angle value of servo 5, range 0~270.

S6: Angle value of servo 6, range 0~180.

time: Control the running time of the servos. Within the effective range, for the
same angle of rotation, the smaller the input running time, the faster the servos
move. Input 0 for the servos to run at maximum speed.

Return value: None.
```

2. Code Content

Code path:

```
~/dofbot_pro/dofbot_ctrl/scripts/05.ctrl_all.ipynb
```

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

```
# Control six servos simultaneously, gradually changing angles.
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

# Let the servos return to center position
    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 from jupyter lab, and click the "Run entire notebook" button on the jupyter lab toolbar, you can see the six servos of the robotic arm rotating simultaneously, with the robotic arm continuously changing its posture.

To exit, click the stop button on the toolbar.