Robotic Arm Dancing

1. Experimental Idea

This experiment is to control the robotic arm to dance. By modifying the angles of different servos of the robotic arm and increasing the delay time, an effect similar to the robotic arm dancing can be achieved.

2. Code content

Code path:

```
~/dofbot_pro/dofbot_ctrl/scripts/07.dance.ipynb
```

```
#!/usr/bin/env python3
#coding=utf-8
import time
from Arm_Lib import Arm_Device
# Create a robotic arm object
Arm = Arm_Device()
time.sleep(.1)
time_1 = 500
time_2 = 1000
time_sleep = 0.5
```

```
# Robotic arm dances in a loop
def main():
# Reset the servo to the center
Arm.Arm_serial_servo_write6(90, 90, 90, 90, 90, 90, 500)
time.sleep(1)
times = 0.003
while True:
Arm.Arm_serial_servo_write(2, 180-120, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(3, 120, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(4, 60, time_1)
 time.sleep(time_sleep)

 Arm.Arm_serial_servo_write(2, 180-135, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(3, 135, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(4, 45, time_1)
 time.sleep(time_sleep)

 Arm.Arm_serial_servo_write(2, 180-120, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(3, 120, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(4, 60, time_1)
 time.sleep(time_sleep)
```

```
Arm.Arm_serial_servo_write(2, 90, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(3, 90, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(4, 90, time_1)
time.sleep(time_sleep)

Arm.Arm_serial_servo_write(2, 180-80, time_1)
time.sleep(times) Arm.Arm_serial_servo_write(3, 80, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(4, 80, time_1)
time.sleep(time_sleep)



Arm.Arm_serial_servo_write(2, 180-60, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(3, 60, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(4, 60, time_1)
time.sleep(time_sleep)

Arm.Arm_serial_servo_write(2, 180-45, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(3, 45, time_1) time.sleep(times)
Arm.Arm_serial_servo_write(4, 45, time_1)
time.sleep(time_sleep)

Arm.Arm_serial_servo_write(2, 90, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(3, 90, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(4, 90, time_1)
time.sleep(times)
time.sleep(time_sleep)



Arm.Arm_serial_servo_write(4, 20, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(6, 150, time_1)
time.sleep(times) time.sleep(time_sleep)

Arm.Arm_serial_servo_write(4, 90, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(6, 90, time_1)
time.sleep(time_sleep)

Arm.Arm_serial_servo_write(4, 20, time_1)
time.sleep(times)
Arm.Arm_serial_servo_write(6, 150, time_1)
time.sleep(time_sleep)

Arm.Arm_serial_servo_write(4, 90, time_1)
time.sleep(times)
```

```
 Arm.Arm_serial_servo_write(6, 90, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(1, 0, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(5, 0, time_1)
 time.sleep(time_sleep)



 Arm.Arm_serial_servo_write(3, 180, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(4, 0, time_1)
 time.sleep(time_sleep)

 Arm.Arm_serial_servo_write(6, 180, time_1)
 time.sleep(time_sleep)

 Arm.Arm_serial_servo_write(6, 0, time_2)
 time.sleep(time_sleep)



 Arm.Arm_serial_servo_write(6, 90, time_2)
 time.sleep(times) Arm.Arm_serial_servo_write(1, 90, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(1, 90, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(5, 90, time_1)
 time.sleep(time_sleep)

 Arm.Arm_serial_servo_write(3, 90, time_1)
 time.sleep(times)
 Arm.Arm_serial_servo_write(4, 90, time_1)
 time.sleep(time_sleep)

 print("END OF LINE! ")

try:
 main()
except KeyboardInterrupt:
 print("Program closed! ")
 pass
```

```
del Arm # Release the Arm object
```

from Open the program file in jupyter lab and click the Run the entire notebook button on the jupyter lab toolbar to see the robot arm dancing.

If you want to exit, click the stop button on the toolbar.