DOFBOT Dancing

1. Experimental Approach

This experiment controls the DOFBOT to dance by modifying the angles of different servos and adding delay times, thereby creating a dancing effect similar to a robotic arm.

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 robotic arm object
Arm = Arm_Device()
time.sleep(.1)
time_1 = 500
time_2 = 1000
time_sleep = 0.5
```

```
# DOFBOT cyclic dancing
def main():
     # Let the servos return to center position
    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
```

Open the program file from jupyter lab, and click the "Run entire notebook" button on the jupyter lab toolbar, you can see the DOFBOT dancing.

To exit, click the stop button on the toolbar.