

7. DOFBOT dancing

1.Experiment ideas

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 dancing robotic arm can be achieved.

2.Code content

Code path:

```
~/dofbot_ws/src/dofbot_ctrl/scripts/07.dance.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)
time_1 = 500
time_2 = 1000
time_sleep = 0.5
```

```
# Robotic arm dances in loop
def main():
    # Reset the servo to 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 Arm object
```

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



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



