6.DOFBOT up down left right

1.Experiment ideas

This experiment is to control the robot arm to swing up and down, left and right, and then return to an upright state. By controlling the different angles of servos No. 3 and No. 4 at the same time, the function of controlling the servos to swing up and down is achieved, and then the No. 1 servo is controlled to swing left and right, and finally return to an upright state.

2.Code content

Code path:

```
~/dofbot_ws/src/dofbot_ctrl/scripts/06.left_right.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)
```

```
def main():
 # Reset the servo to center
     Arm.Arm_serial_servo_write6(90, 90, 90, 90, 90, 90, 500)
     time.sleep(1)
     while True:
         # Control the up and down movement of servos No. 3 and No. 4
         Arm.Arm_serial_servo_write(3, 0, 1000)
         time.sleep(.001)
         Arm.Arm_serial_servo_write(4, 180, 1000)
         time.sleep(1)

         # Control the left and right movement of the No. 1 servo
         Arm.Arm_serial_servo_write(1, 180, 500)
         time.sleep(.5)
         Arm.Arm_serial_servo_write(1, 0, 1000)
         time.sleep(1)
        # Control the servo to return to its initial position
         Arm.Arm_serial_servo_write6(90, 90, 90, 90, 90, 90, 1000)
         time.sleep(1.5)
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 arm move up, down, left and right.

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