DOFBOT Up Down Left Right Movement

1. Experimental Approach

This experiment controls the DOFBOT to move up, down, left, and right, then return to an upright state. By simultaneously controlling servos 3 and 4 at different angles, we achieve the up and down swinging function. Then we control servo 1 for left and right movement, and finally return to the upright state.

2. Code Content

Code path:

```
~/dofbot_pro/dofbot_ctrl/scripts/06.left_right.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)
```

```
def main():
 # Let the servos return to center position
     Arm.Arm_serial_servo_write6(90, 90, 90, 90, 90, 90, 500)
     time.sleep(1)
     while True:
         # Control servos 3 and 4 for up and down movement
         Arm.Arm_serial_servo_write(3, 0, 1000)
         time.sleep(.001)
         Arm.Arm_serial_servo_write(4, 180, 1000)
         time.sleep(1)

         # Control servo 1 for left and right movement
         Arm.Arm_serial_servo_write(1, 180, 500)
         time.sleep(.5)
         Arm.Arm_serial_servo_write(1, 0, 1000)
         time.sleep(1)
        # Control servos to return to 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 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 moving up, down, left, and right.

To exit, click the stop button on the toolbar.