2.1.7 PID tutorial

We have customized a set of PID drivers specifically for Raspblock.
Step 1. Import the module from our PID.py driver file

```
import PID
```

Step2. Create a PID control instance

```
xservo_pid = PID.PositionalPID(1.9, 0.3, 0.35)
yservo_pid = PID.PositionalPID(1.5, 0.2, 0.3)
```

Step3. Configure the outlet (original value + xservo_pid.SystemOutput), inlet value (Now_value), set inertia constant (InertiaTime), sampling time constant (SampleTime), initial value (original_value)

Note:
Inertia Time: It means the time it takes to move suddenly in the direction of the movement or other movements that overcome inertia.
Sample Time: It means the interval time between the last input data of PID controller and the adjacent input data, which is roughly equal to the time it takes to enter the loop of PID controller's main function once.

```
# Proportion-Integration-Differentiation algorithm
xservo_pid.SystemOutput = Now_value
xservo_pid.SetStepSignal(Target_value)
xservo_pid.SetInertiaTime(InertiaTime, SampleTime)
target_valuex = int(original_value + xservo_pid.SystemOutput)
```

After configuration of the above three step, a basic PID controllers is completed. Next, we can adjust the PID parameters according to the actual situation.