Global Health Drone: Autopilot Controller: FlowChart

Global Health

Drone

Student Name: Louie Burns   Student Username: mn22lby

```
System On
```
↓
```
Message – 0. System
Started
```
→
```
Set Global
Variables
```
→
```
Set the pins:
Left Motor – 10
Right Motor – 9
Potentiometer – A0
LEDs, Green (2), Yellow (3), Red (4)
```

```
Wait 1 second
```
←
```
Turn on the green LED
(2)
```
←
```
Initialise motors
with 0 signal
```
↑
↓
```
Turn off the green LED
(2)
```
→
```
Message – 1. System
Initiated
```
→
```
Message – 2.
Controller
Starting
```
↓

```
Map the
Control Signal
to an Angle
```
←
```
Read
Potentiometer
Signal
```
←
```
Find Elapsed Time by
StartTime –
ControllerTime
```
←
```
Record
Controller
Time
```
↑

↓
```
Is -5 <
Angle
< 5?
```
— **No** →
```
Find
Motorpercent by
mapping angle
from -22 to 22 to
0 to 100
```
→
```
Map LMotor
from percentage
of 0 -100 to 45 -
59
```
→
```
Find
Error
```

Yes ↓   ↓   ↓   ↓
```
Record
Horziontal
Time
```
```
Is
Angle
> 5?
```
— **Yes** →
```
Print Time, Angle,
Error, Control Signal,
Motor L, Motor R
```

↓   **No** ↓
```
Turn on Scanning LED (3)
```
→
```
Map RMotor
from percentage
of 0 -100 to 45 -
55
```

↓
```
Find ScanTime =
StartTime –
HorizontalTime
```

↓
```
Is
ScanTime >
5?
```
— **No** →
```
Print Time, Angle,
Error, Control Signal,
Motor L, Motor R
```

Yes ↓
```
Print Time, Angle, Error,
Control Signal, Motor L,
Motor R & 4. Initialising
Shutdown
```
→
```
Turn Off Scanning
LED (3) & Turn On
Shutdown LED (4)
```
→
```
Turn Off Motors
```
→
```
System Off
```

↓   ↑
```
Wait 1 second
```
→
```
Turn off Shutdown
LED (4)
```