TUNING PID FOR LINE FOLLOWING

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| kp | ki | kd | Observation | feedback |
| 0 | 0 | 0 | No line following | Increase kp |
| 1.5 | 0 | 0 | Follows – jerky  18.3 seconds | Decrease kp |
| 1 | 0 | 0 | Line following – slight oscillation  Very accurate  15.86 seconds | Decrease kp |
| 0.5 | 0 | 0 | Follows – goes off at curves. Smooth in straight lines | Increase kp |
| 0.75 | 0 | 0 | Follows – ok at turns but it goes off in sharper turns. Don’t sue | Increase kp slightly more |
| 0.9 | 0 | 0 | Best one  15.4 seconds |  |
| 0.9 | 0.4 |  | 18.20 – slower in corners |  |
|  | 0.2 |  | 18.40 – still slow |  |
| 0.9 | 0.1 |  | 15.88 least wobbly and jerky |  |
|  | 0.05 |  | 16.16 |  |
| 0.9 | 0.1 | 0.01 | Unstable but fast |  |

FINDING THE MOTOR OFFSET TO MAKE IT STRAIGHT AGAIN

Max speed – 200

|  |  |  |
| --- | --- | --- |
| offset | observation | feedback |
| 0 | Left | increase |
| 20 | right | decrease |
| 10 | Super slight left | increase |
| 15 | skuightright | decrease |
| 12 |  |  |