```
1 #include "pid.h"
2
 3 //constructor sets constants
4
 5 PID::PID(PIDConst constants) {
6
   this->kp = constants.kp;
7
   this->ki = constants.ki;
   this->kd = constants.kd;
8
9 }
10
11 //steps PI algo with error passed in (no D)
12 double PID::step(double err) {
13 totalerr+=err;
double val = kp*err + totalerr*ki;
15 return val;
16 }
```