```cpp
#ifndef _PID_
#define _PID_


//generic constants structure
struct PIDConst {
    double kp, ki, kd;
};

//generic PID class for all PID movements
class PID {
private:
    double kp;
    double ki;
    double kd;
    double totalerr;
public:
    PID(PIDConst constants);
    double step(double err);
};

#endif
```