# Activity Diagram - main.cpp

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**PIDController**

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-Kp: vector<double>
-Ki: vector<double>
-Kd: vector<double>
-targetSetPoint: vector<double>
-finalVelocity: vector<double>
-actualVelocity: vector<double>
-errorSum: double
-lastVelocity: vector<double>
-maxLimitVel:double

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+computeOutput():shared_ptr_vector<double>
+changeSetPoint(shared_ptr_vector<double>)
                    :shared_ptr_vector<double>
+updateErrorSum():double
+getKpGain():shared_ptr_vector<double>
+setKpGain(shared_ptr_vector<double>):bool
+getKiGain():shared_ptr_vector<double>
+setKiGain(shared_ptr_vector<double>):bool
+getKdGain():shared_ptr_vector<double>
+setKdGain(shared_ptr_vector<double>):bool
+getActualVelocity():shared_ptr_vector<double>
+setActualVelocity(shared_ptr_vector<double>):bool
+getMaxLimitVel():double
+setMaxLimitVel(shared_ptr_vector<double>):bool
+getTargetSetPoint():shared_ptr_vector<double>
+setTargetSetPoint(shared_ptr_vector<double>):bool