Ball

- position : double
- velocity : double

+ Ball(position:double, velocity:double)
+ get_position() : double
+ set_position(double) : void
+ get_velocity() : double
+ set_velocity(double)
+ push() : void

Controller

- ball(double, double) : Ball
- beam(int, double, double) : Beam
- kp : double
- ki : double
- kd : double
- desired_pos : double
- time_passed : std::chrono::duration

+ Controller(Ball, Beam, double, double, double, double)
+ control(position:double, velocity:double) : void
+ get_time() : void

Beam

- length : int
- angle : double
- ang_velocity : double

+ Beam(length:int, angle:double, ang_velocity:double)
+ get_angle() : double
+ set_angle(desired_angle:double)

position
velocity

position
velocity

Ball

PID controller

time
angle

Beam