## walk

- geometry msgs::Twist linear velo
- geometry msgs::Twist angular velo
- ros::NodeHandle n;
- bool need turn = false;
- geometry msgs::Point postion;
- geometry msgs::Point current pose
- tf::Quaternion current orientation
- double rotate tolerance = 0.05
- double straight tolerance = 1
- double desired angle = 0
- + bool linear\_move(double x, doube y): bool
- + rotate(double angle): bool
- + collision(const

kobuki\_msgs::BumperEvent::ConsPtr&bumper state): bool

- + set\_linear(const double&): void
- + set\_angular(const double&): void
- + set\_initial\_pose(const double&, const double&): void
- + set up position(): void
- + where\_turtle(): geometry\_msgs::Transform
- + get current pose(): geometry msgs::Point
- + get\_current\_orientation: tf::Quaternion
- + diff\_dist(): double
- + diff\_angle(): double
- + isdiffAngle(tf::Quaternion current\_orientation, double angle);
- + set\_up\_goal(double x, double y): void
- + whether reverse(tf:: Quaternion

current orientation): bool

- + get initial pose(): geometry::msgs Point
- + get goal(): geometry::msgs Point
- + get linear velo(): geometry::msgs Twist
- + get\_angular\_velo(): geometry::msgs Twist
- + set straight tolerance(const double&): void
- + set rotate tolerance(const double&): void
- + get\_straight\_tolerance(): double
- + get rotate tolerance(): double

