E6: Alex Felderean, Lauren Hawkinson, Grace Jiang, Daniel Rihm

Clingan 12:40

Function: Robot::moveUnbounded

Description:

/\*\*

 \* @brief Moves the robot in the specified direction at the specified speed.

 \* Requires 0 < speed < 100 AND 0 < angle < 360.

 \*

 \* @param angle The angle at which the robot moves at in degrees.

 \* @param speed The speed at which the robot should move as a percent

\* of the max motor speed.

 \*/

Pseudocode:

function moveUnbounded(var angle, var speed):

   var motorFS = speed \* cos(MOTOR\_FRONT\_ANGLE \* PI / 180.0 - angle \* PI / 180.0)

   var motorLS = speed \* cos(MOTOR\_LEFT\_ANGLE \* PI / 180.0 - angle \* PI / 180.0)

   var motorRS = speed \* cos(MOTOR\_RIGHT\_ANGLE \* PI / 180.0 - angle \* PI / 180.0)

   setMotorPercent(motorFS, motorLS, motorRS)

END moveUnbounded

And setMotorPercent is formally defined as:

/\*\*

 \* @brief Sets all motors' percents to the specified amounts.

\* Requires 0 < [all parameters] < 100.

 \*

 \* @param fSpeed The front motor's speed.

 \* @param lSpeed The left motor's speed.

 \* @param rSpeed The right motor's speed.

 \*/

And cos is formally defined as:

/\*\*

 \* @brief Computes cosine.

 \*

 \* @param x Any angle in radians.

\* @returns The cosine of x.

 \*/