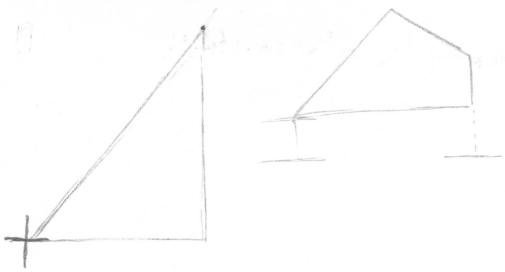
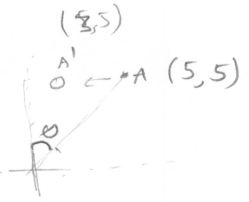


~~Maintaining~~

Moving in 1 axis by rotation while keeping the other constant:



~~start~~ ~~current~~ coords: (5, 5)

target coords: (3, 5)

Coordinates: (-2, 0)

length at any given point, given known θ,

last length (iffy)

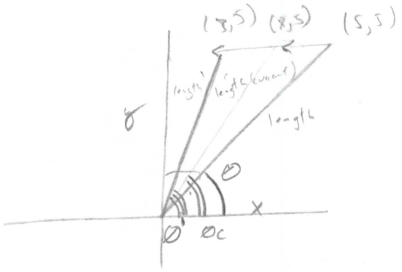
to find: the target length of arm at any given ~~point~~ instant ~~between~~ between the start coordinate and end coordinate, ~~given the angle from origin, initial length of the arm,~~ ~~initial length of the arm, and the target~~ given the initial angle from origin, target angle from origin, current angle from origin, initial length of the arm, target length of the arm

To keep in mind:

PID control loops,

fixing errors over the course of the move,

making it work for both ~~boards~~ at once.



$length = \sqrt{x^2 + y^2}$

finding y from current length & angle from origin:

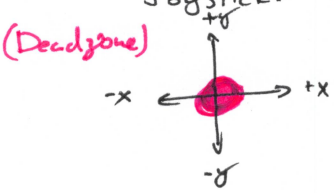
$y = length \cdot \sin(\theta_{current})$

Relative Control:

assuming the operator corrects mistakes:

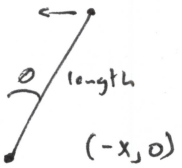
~~assuming~~ this assumes that the bot's operator can see the arm & can make corrections,

Joystick: Robot arm only moves when joysticks are out of deadzones:



~~Determine rate of movement (at center) by multiply~~

speed = length of robot arm · joystick analog reading outside of deadzone · constant that makes the ~~power~~ speed



~~rate = ten~~

~~speed = length · joystick~~