$(180 - \theta_1)$

θ_1

SERVO

(x)

20

h (know)

If we set θ_1 as we know the physical parameters like width of robot, then for 20 m, we can change Δx in the angle. So we will have accurate trace.

(Just the idea has been implement in the project, because there were no solid measurements for the components).

Function ?

$$Angle = (\theta_1 + \Delta x)$$

$$\hookrightarrow \tan^{-1}\left[\frac{\left(\left(\frac{h}{\sin \theta_1} \cos \theta_1\right) + 20\right)}{h}\right]$$

$$= \left[\theta_1 + \frac{h \cot \theta_1 + 20}{h}\right]$$

h is the distance of servo from sensor, which can be measured in a real project, also, distance between the edges where sensor and motor are placed can be known so,

for arduino code,

$$Servo.Write\left(\theta_1 + atan\left[\frac{h \cot \theta_1 + dis}{h}\right]\right).$$

atan $\rightarrow$ #include <math.h>

dis2/dis $\rightarrow$ variable known (already in programe