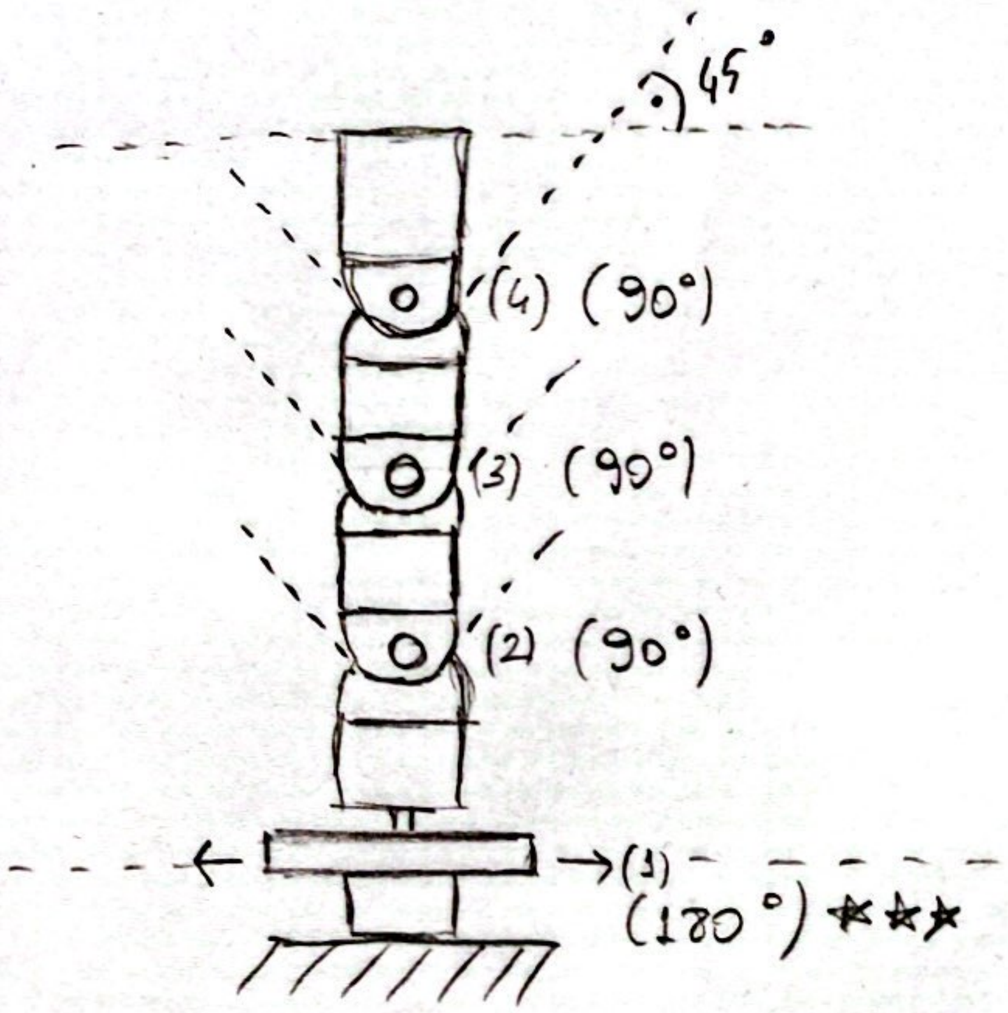
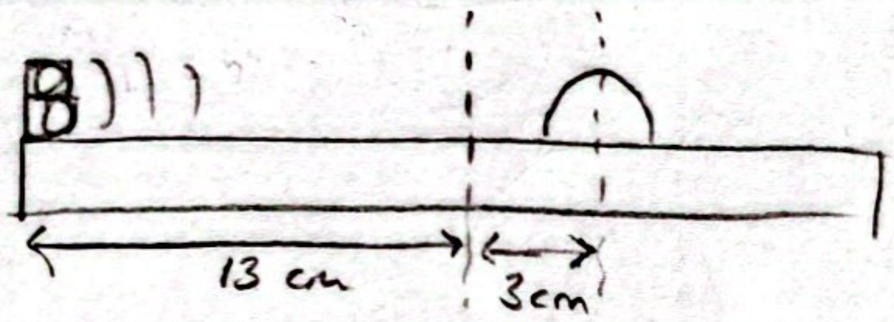
# PID kontrolcü tasarımı

10.12.2023
(pazar)




$k_p = 1.00$
$k_i = 0,1$
$k_d = 0,01$

setpoint = 13 cm
measure = 16cm

error = 13-16 = -3 error = -3

integral = 0+(-3) = -3 integral = -3

derrivative = error - last_eror -3-0 = -3

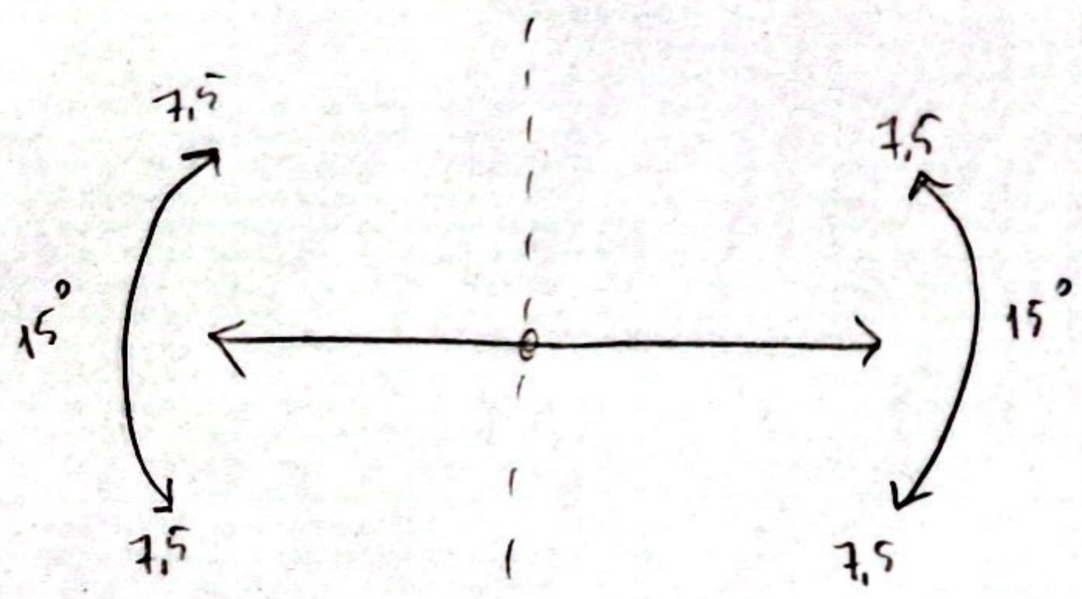
propotional = error x kp

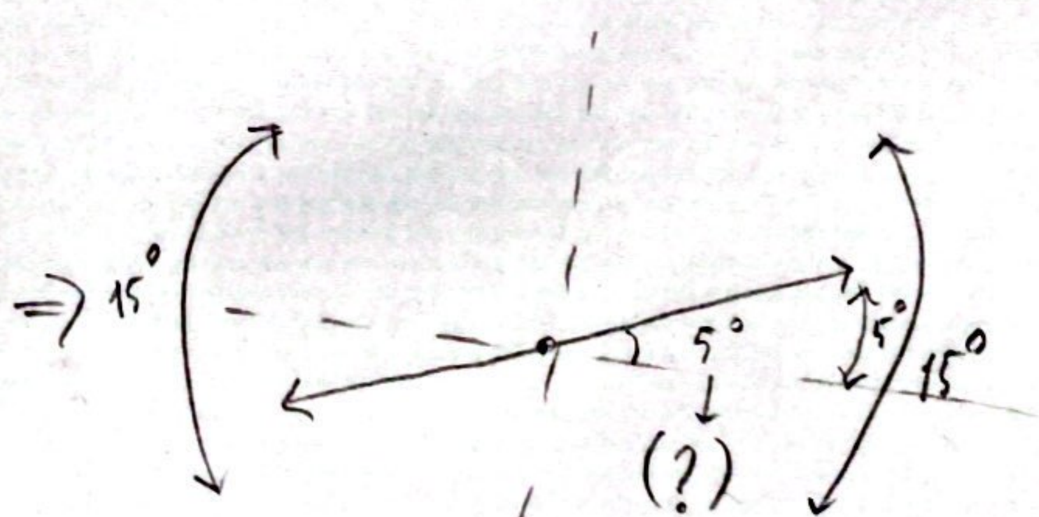
output = (error x kp) + (integral x ki) + (derivative x kd)

(-3 x kp) + (-3 x ki) + (-3 x kd)

iterasyon

45->



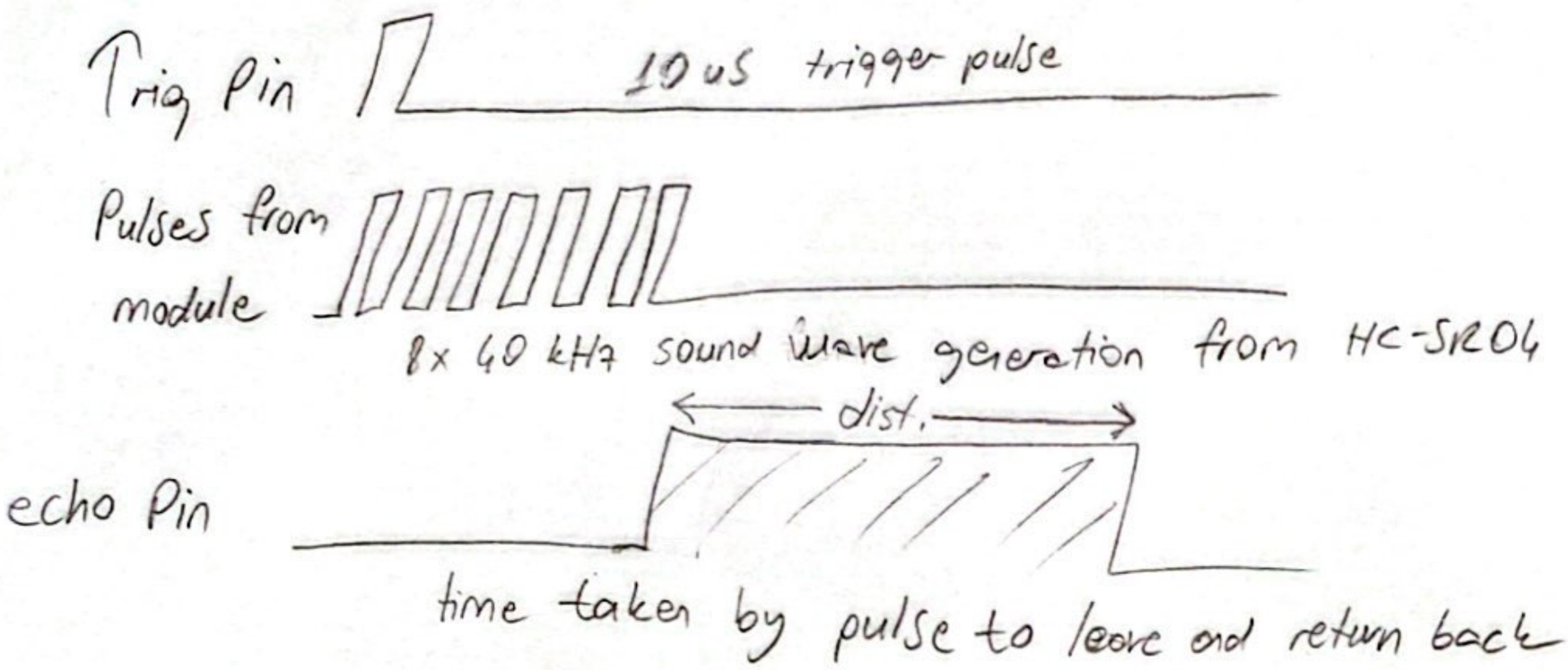

output ⇒ 42 || 48

1

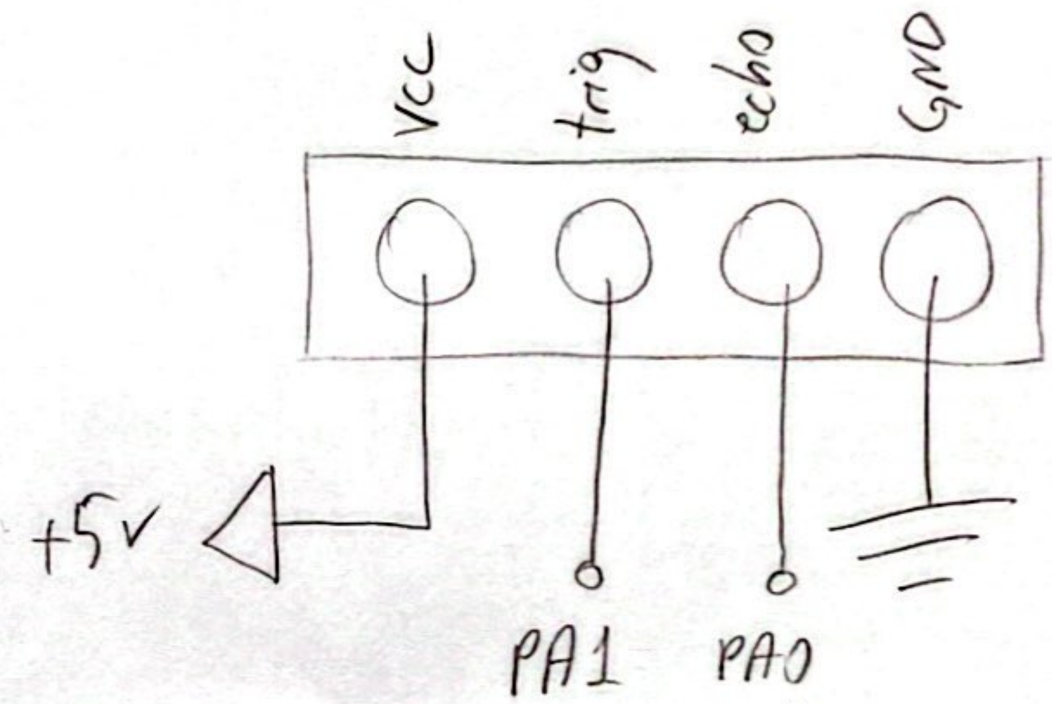
# Ultrasonic HC-SR04 Modele Timing Diagram

15.12.2023

Onur ACAR
(PID project)




PA0 → echo (input)
PA1 → trigger (output)




→ local_time /58 → datasheetde tavsiye edilen (out) (in)

/29.2 → Doğru uzaklığın yarısını (neredeyse)

/15.1 → (-3) offset değeri ile doğru değer ölçümü mümkün olmuştur.