const double beltvel=0.4 // belt velocity in m/s

const double irdistl=0.8 // distance of IR sensor in meters from left belt

const double irdistr=1.8 // distance of IR sensor in meters from right belt

int irsig = 8;

str barsig;

pushMotor11 = 6

pushMotor12 = 7

pushMotor21 = 4

pushMotor22 = 5

void setup()

{

pinMode(irsig, INPUT);

pinMode(pushMotor11, OUTPUT);

pinMode(pushMotor21, OUTPUT);

pinMode(pushMotor12, OUTPUT);

pinMode(pushMotor22, OUTPUT);

Serial.begin(9600);

}

void loop()

{

if(digitalRead(irsig)==HIGH)

{

double t1=millis();

while(digitalRead(irsig)==HIGH)

{

barsig = Serial.read();

if (barsig != NULL)

{

str code = barsig;

}

}

double t2=millis();

double t = (t2 - t1)\*1000;

double T1 = (irdistl - beltvel \* t / 2) / beltvel // T1 is in seconds

double T2 = (irdistr - beltvel \* t / 2) / beltvel // T2 is in seconds

}

if (code == "LEFT")

{

delay(T1\*1000);

start=millis();

while(millis() - start < 500)

{

digitalWrite(pushMotor11, HIGH);

digitalWrite(pushMotor21, LOW);

}

start=millis();

while(millis() - start < 500)

{

digitalWrite(pushMotor11, LOW);

digitalWrite(pushMotor21, HIGH);

}

digitalWrite(pushMotor21, LOW);

delay((T2-T1)\*1000-1000);

}

else if (code == "RIGHT")

{

delay(T2\*1000);

start=millis();

while(millis() - start < 500)

{

digitalWrite(pushMotor22, HIGH);

digitalWrite(pushMotor21, LOW);

}

start=millis();

while(millis() - start < 500)

{

digitalWrite(pushMotor22, LOW);

digitalWrite(pushMotor21, HIGH);

}

digitalWrite(pushMotor21, LOW);

}

else

{

delay(T2\*1000+1000);

{

}