```
const int tp = 13;
const int ep = 12;
long duration ;
int distance ;

int counter = 0;
unsigned long int st =0 ,ft =0,gST =0,gFT = 0;
int pin=4;
unsigned valueOfSignalGantry ;



void setup() {
   // put your setup code here, to run once:
   pinMode(5,OUTPUT);
   pinMode(6,OUTPUT);
   pinMode(7,OUTPUT);
   pinMode(8,OUTPUT);
   pinMode(tp,OUTPUT);
   pinMode(ep,INPUT);
   pinMode(A1,INPUT);//l
   pinMode(A2,INPUT);//r
   pinMode(pin,INPUT);
   Serial.begin(9600);
}


// BUGGY MOVEMENT
void forward() {
//digitalWrite(5,HIGH);
analogWrite(5,180);
digitalWrite(6,LOW);
digitalWrite(7,LOW);
//digitalWrite(8,HIGH);
analogWrite(8,180);
}
void backward() {
digitalWrite(5,LOW);
digitalWrite(6,HIGH);
digitalWrite(7,HIGH);
digitalWrite(8,LOW);
}
void right() {
digitalWrite(5,LOW);
digitalWrite(6,LOW);
digitalWrite(7,LOW);
digitalWrite(8,HIGH);
}
void left() {
digitalWrite(5,HIGH);
digitalWrite(6,LOW);
digitalWrite(7,LOW);
digitalWrite(8,LOW);
}
void stopf() {
digitalWrite(5, LOW);
digitalWrite (6, LOW);
```

```
digitalWrite (7, LOW);
digitalWrite (8, LOW);
}
void clockwise(){
digitalWrite(5,LOW);
digitalWrite(6,HIGH);
digitalWrite(7,LOW);
digitalWrite(8,HIGH);
}

// GANTRY SIGNAL
void checkGantry(){
//       now check for different gantry signals
   valueOfSignalGantry=pulseIn(pin,HIGH,3000);
      if (valueOfSignalGantry >400 && valueOfSignalGantry<1000){
         Serial.println(valueOfSignalGantry);
         Serial.println("Gantry 1 ");
         stopf();
         delay(1000);
         forward();
         delay(400);
      }
//       more else if conditions
   }



// LINE FOLLOWING CODE
void buggy(){
   int l,r;
   digitalWrite(tp,LOW);
   delayMicroseconds(2);
   digitalWrite(tp,HIGH);
   delayMicroseconds(10);
   digitalWrite(tp,LOW);
   duration = pulseIn(ep,HIGH,5000);

   distance = (duration * 0.034)/2;
//    Serial.println(distance);


   if (distance <= 15 && distance>0){
      stopf();
   }
   else{
     l= digitalRead(A1);
     r= digitalRead(A2);
     checkGantry();

   if(l==1 && r== 0){
        right();
   }
   else if(l==0 && r==1){

      left();
   }
```

```
    else if(l ==1 && r== 1){
      forward();
    }
    else if(l == 0 && r== 0){
      st = millis();
      if(st - 500 > ft){
        counter++;
        Serial.print("value of counter :");
        Serial.println(counter);
        ft = millis();
      }
      if(counter ==1){
        forward();
      }
      else if(counter == 2){
        right();
      }
      else if(counter == 3){
        left();
      }
      //delay kei baad ek bari aur detect kar rahi thi
      else if(counter == 4){
        //          right();
        clockwise();
        delay(50);
        stopf();
        delay(10);
      }
      else if(counter == 6){
        stopf();
//          exit(0);
        delay(5000);
        counter=0;
      }
    }

    }
}
char s;
void loop(){
    if (Serial.available()>0){
      char temp = Serial.read();
      if (temp == 'G' || temp == 'S'){
        s = temp;
      }
//    s = Serial.read();
}
if ( s == 'G'){
    buggy();
}
else if( s== 'S'){
    stopf();
    delay(1000);
}

}
```