CODE FOR LINE FOLLOWING BOT:-

//pins for motors

int leftf=A0;

int leftb=A1;

int rightf=A2;

int rightb=A3;

for(int i=1;i<=6;i++)

{

int pi=i-1; // pins for photo diodes

int ledi=i+5; // pins for leds

}

void setup()

{pinMode(A0,OUTPUT); // set motor pin A0 as output pin

pinMode(A1,OUTPUT);

pinMode(A2,OUTPUT);

pinMode(A3,OUTPUT);

for(i=0;i<=5;i++)

{

pinMode(i,INPUT); // set photo diode pins as input pins

}

for(i=6;i<=11;i++)

{

pinMode(i,OUTPUT); // set led pins as output pins

}

serial.begin(9600);

}

void loop()

{

for(i=6;i<=11;i++)

{

digitalWrite(i,1); // turn ON all the leds

}

for(i=0;i<=5;i++)

{

int si=digitalRead(i); // read the pins whether the output of photodiode is 1 or 0

}

if((s0==i)&&(s1==1)&&(s2==0)&&(s3==0)&&(s4==1)&&(s5==1))

forward();

else if((s0==1)&&(s1==0)&&(s2==0)&&(s3==1)&&(s4==1)&&(s5==1))

slightleft();

else if((s0==0)&&(s1==0)&&(s2==1)&&(s3==1)&&(s4==1)&&(s5==1))

hardleft();

else if((s0==1)&&(s1==1)&&(s2==1)&&(s3==0)&&(s4==0)&&(s5==1))

slightright();

else if((s0==1)&&(s1==1)&&(s2==1)&&(s3==1)&&(s4==0)&&(s5==0))

hardright();

else if((s0==1)&&(s1==1)&&(s2==0)&&(s3==0)&&(s4==0)&&(s5==0))

hardright();

else if((s0==0)&&(s1==0)&&(s2==0)&&(s3==0)&&(s4==1)&&(s5==1))

hardright();

else if((s0==0)&&(s1==0)&&(s2==0)&&(s3==0)&&(s4==0)&&(s5==0))

stop();

else if((s0==1)&&(s1==1)&&(s2==1)&&(s3==1)&&(s4==1)&&(s5==1))

{

hardright();

delay(2000); // the program stops for 2000ms and continues the previous function

}

}

void forward()

{ analogWrite(A0,255);

analogWrite(A1,0);

analogWrite(A2,255);

analogWrite(A3,0);

}

void stop()

{

analogWrite(A0,0);

analogWrite(A1,0);

analogWrite(A2,0);

analogWrite(A3,0);

}

void slightleft()

{

analogWrite(A0,0);

analogWrite(A1,0);

analogWrite(A2,127);

analogWrite(A3,0);

}

void hardleft()

{

analogWrite(A0,0);

analogWrite(A1,0);

analogWrite(A2,255);

analogWrite(A3,0);

}

void slightright()

{

analogWrite(A0,127);

analogWrite(A1,0);

analogWrite(A2,0);

analogWrite(A3,0);

}

void hardright()

{

analogWrite(A0,255);

analogWrite(A1,0);

analogWrite(A2,0);

analogWrite(A3,0);

}