//RSLK New Line Follower //

int sensor\_value=0;

int k=0;

int a=0;int b=0;int c=0;int d=0;

int e=0;int f=0;int g=0;int h=0;

int bs1,bs2,bs3,bs4,bs5,bs6;

void setup()

{

/\* WHITE LED TESTING \*/

pinMode(75,OUTPUT);

pinMode(76,OUTPUT);

pinMode(77,OUTPUT);

digitalWrite(75,HIGH);

digitalWrite(76,HIGH);

digitalWrite(77,HIGH);

delay(1000);

digitalWrite(75,LOW);

digitalWrite(76,LOW);

digitalWrite(77,LOW);

delay(1000);

/\*White LED Testing Complete\*/

/\* MOTOR CONNECTION INITIALIZATION\*/

pinMode(54,OUTPUT); //DIR R

pinMode(70,OUTPUT); //DIR L

pinMode(32,OUTPUT); //PWM R

pinMode(31,OUTPUT); //PWM L

pinMode(55,OUTPUT); //nSLP R

pinMode(71,OUTPUT); //nSLP L

/\* Motor initialization complete\*/

/\* BUMP SWITCH INITIALIZATION \*/

pinMode(42,INPUT\_PULLUP);

pinMode(59,INPUT\_PULLUP);

pinMode(45,INPUT\_PULLUP);

pinMode(62,INPUT\_PULLUP);

pinMode(49,INPUT\_PULLUP);

pinMode(66,INPUT\_PULLUP);

/\* Bump Switch Initialization Complete\*/

/\* PIN 5.3 For QTR. Make it as Output\*/

pinMode(61,OUTPUT);

Serial.begin(9600);

}

void loop()

{

digitalWrite(61,HIGH);

pinMode(65,OUTPUT);pinMode(48,OUTPUT);pinMode(64,OUTPUT);pinMode(47,OUTPUT);

pinMode(52,OUTPUT);pinMode(68,OUTPUT);pinMode(53,OUTPUT);pinMode(69,OUTPUT);

digitalWrite(65,HIGH);digitalWrite(48,HIGH);digitalWrite(64,HIGH);digitalWrite(47,HIGH);

digitalWrite(52,HIGH);digitalWrite(68,HIGH);digitalWrite(53,HIGH);digitalWrite(69,HIGH);

delayMicroseconds(30);

pinMode(65,INPUT\_PULLUP);pinMode(48,INPUT\_PULLUP);pinMode(64,INPUT\_PULLUP);pinMode(47,INPUT\_PULLUP);

pinMode(52,INPUT\_PULLUP);pinMode(68,INPUT\_PULLUP);pinMode(53,INPUT\_PULLUP);pinMode(69,INPUT\_PULLUP);

for(k=0;k<10000;k++)

{

a=digitalRead(65);b=digitalRead(48);c=digitalRead(64);d=digitalRead(47);

e=digitalRead(52);f=digitalRead(68);g=digitalRead(53);h=digitalRead(69);

}

Serial.print(h);Serial.print(g);Serial.print(f);Serial.print(e);Serial.print(d);Serial.print(c);Serial.print(b);Serial.print(a); Serial.print(" ");

int sensorvalue=(h\*128)+(g\*64)+(f\*32)+(e\*16)+(d\*8)+(c\*4)+(b\*2)+(a\*1);

if(sensorvalue<=7 && sensorvalue>0)

{

Serial.println("Move Right");

Forward(0,50);

}

if(sensorvalue>7 && sensorvalue<=32)

{

Serial.println(" Move Forward");

Forward(50,50);

}

if(sensorvalue>31 && sensorvalue<255)

{

Serial.println("Move Left");

Forward(50,0);

}

if(sensorvalue ==0 || sensorvalue==255)

{

Serial.println("STOP");

Forward(0,0);

}

digitalWrite(61,LOW);

delay(10);

/\* Reading Bump switches\*/

bs1=digitalRead(42);

bs2=digitalRead(59);

bs3=digitalRead(45);

bs4=digitalRead(62);

bs5=digitalRead(49);

bs6=digitalRead(66);

if(bs1==0 || bs2==0 ||bs3==0 ||bs4==0 ||bs5==0 ||bs6==0)

{

Serial.print(" BUMP Activated..Moving back few steps");

for(int m=0;m<=50000;m++)

{

Reverse(50,50);

}

}

}

void Reverse(int i,int j) // First Argument is PWM for Right and Second Argument is PWM for Left

{

digitalWrite(55,HIGH);//SLP R

digitalWrite(54,HIGH); // DIR R

digitalWrite(71,HIGH);//SLP L

digitalWrite(70,HIGH); //DIR L

analogWrite(31,j); // PWM L

analogWrite(32,i); //PWM R

}

void Forward(int i,int j) // First Argument is PWM for Right and Second Argument is PWM for Left

{

digitalWrite(55,HIGH);//SLP R

digitalWrite(54,LOW); // DIR R

digitalWrite(71,HIGH);//SLP L

digitalWrite(70,LOW); //DIR L

analogWrite(31,j); // PWM L

analogWrite(32,i); //PWM R

}