Setting up Pins

In program first of all we have defined output pins for motors and Input pins for DTMF decoder output as in INPUT for Arduino.

```
#define m11 3
#define m12 4
#define m21 5
#define m22 6

#define D0 19
#define D1 18
#define D2 17
#define D3 16
```

And then in setup set motor pin as OUTPUT and DTMF decoder output pins as INPUT.

```
void setup()
{
  pinMode(D0, INPUT);
  pinMode(D1, INPUT);
  pinMode(D2, INPUT);
  pinMode(D3, INPUT);

  pinMode(m11, OUTPUT);
  pinMode(m12, OUTPUT);
  pinMode(m21, OUTPUT);
  pinMode(m22, OUTPUT);
}
```

After that we read DTMF decoder output and then compare with defined values by using “if” statement and perform relative operation.

```
int temp1=digitalRead(D0);
int temp2=digitalRead(D1);
int temp3=digitalRead(D2);
int temp4=digitalRead(D3);

if(temp1==0 && temp2==1 && temp3==0 && temp4==0)
forward();
```

Code

```
#define m11 3
#define m12 4
#define m21 5
#define m22 6

#define D0 19
#define D1 18
#define D2 17
#define D3 16

void forward()
{
   digitalWrite(m11, HIGH);
   digitalWrite(m12, LOW);
   digitalWrite(m21, HIGH);
   digitalWrite(m22, LOW);
}

void backward()
{
   digitalWrite(m11, LOW);
   digitalWrite(m12, HIGH);
   digitalWrite(m21, LOW);
   digitalWrite(m22, HIGH);
}

void left()
{
   digitalWrite(m11, HIGH);
   digitalWrite(m12, LOW);
   digitalWrite(m21, LOW);
   digitalWrite(m22, LOW);
}

void right()
{
   digitalWrite(m11, LOW);
   digitalWrite(m12, LOW);
   digitalWrite(m21, HIGH);
   digitalWrite(m22, LOW);
}

void Stop()
{
   digitalWrite(m11, LOW);
   digitalWrite(m12, LOW);
   digitalWrite(m21, LOW);
   digitalWrite(m22, LOW);
}

void setup()
{
  pinMode(D0, INPUT);
  pinMode(D1, INPUT);
  pinMode(D2, INPUT);
  pinMode(D3, INPUT);

  pinMode(m11, OUTPUT);
  pinMode(m12, OUTPUT);
  pinMode(m21, OUTPUT);
```

```
  pinMode(m22, OUTPUT);
}

void loop()
{

  int temp1=digitalRead(D0);
  int temp2=digitalRead(D1);
  int temp3=digitalRead(D2);
  int temp4=digitalRead(D3);

  if(temp1==0 && temp2==1 && temp3==0 && temp4==0)
  forward();

  else if(temp1==0 && temp2==0 && temp3==1 && temp4==0)
  left();

  else if(temp1==0 && temp2==1 && temp3==1 && temp4==0)
  right();

  else if(temp1==0 && temp2==0 && temp3==0 && temp4==1)
  backward();

   else if(temp1==1 && temp2==0 && temp3==1 && temp4==0)
  Stop();
}
```