

```
const time1=1000; //time to turn 90°
const time2=4000; //time to turn 360°
const timeb=200; //time for brake
int x=0;      //direction variable
int cm=0;     //distance variable
```

```
// agregar tiempos de freno en voids de dirección antes de avanzar derecho si se patina, agregar escaneo a
ifs de right y left
```

```
void left()      //turn 90 left
{
    cm=0;
    porta=0x00;
    delay_ms(timeb);
    porta=0x11;
    delay_ms(time1);
    porta=0x00;
    portb=0x01;  //ultrasonic trigger
    delay_us(20); //delay trigger (datasheet)
    portb=0x00;  //trigger off
    while(portb.b1==0){}
    while(portb.b1==1){
        cm++;
        delay_us(58); }
    //delay_us(58);
    if((cm>=2)&&(cm<=15))
    {
        porta=0x00;
        delay_ms(timeb);
        porta=0x22;
        delay_ms(time2);
    }
}
```

```
x=2;
```

```
}
```

```
void right()    //turn 90 right
```

```
{
```

```
cm=0;
```

```
porta=0x00;
```

```
delay_ms(timeb);
```

```
porta=0x22;
```

```
delay_ms(time1);
```

```
porta=0x00;
```

```
portb=0x01;    //ultrasonic trigger
```

```
delay_us(20);  //delay trigger (datasheet)
```

```
portb=0x00;    //trigger off
```

```
while(portb.b1==0){}
```

```
while(portb.b1==1){
```

```
cm++;
```

```
delay_us(58); }
```

```
if((cm>=2)&&(cm<=15))
```

```
{
```

```
porta=0x00;
```

```
delay_ms(timeb);
```

```
porta=0x11;
```

```
delay_ms(time2);
```

```
}
```

```
x=1;
```

```
}
```

```
void main() {
```

```
ansel=0x00;
```

```

anselh=0x00;

trisc=0x02;    //port B for ultrasonic 0 trigger 1 echo
portb=0x00; //    Ultrasonic

trisc=0x00;    // c 2 & 3 frontal lights, c 4 & 5 backwards lights
trisa=0x00;    // port a is for outputs only

porta=0x00;

portc=0x00;

delay_ms(1300); //wait before going forward

while (1) {

cm=0;    //restart cm

porta=0x21;    // a0 & a5 are activated so it moves forward

portc=0x3C;    // all lights are on

portb=0x01;    //ultrasonic trigger

delay_us(10); //delay trigger (datasheet)

portb=0x00;    //trigger off

while(portb.b1==0){}

while(portb.b1==1){

cm++;

delay_us(58);}

//delay_us(58);

if ((cm>=5)&&(cm<=30)&&(x==0))

right();

if ((cm>=5)&&(cm<=30)&&(x==1))

left();

if (x>=2)

{x=0;}

}

}

```