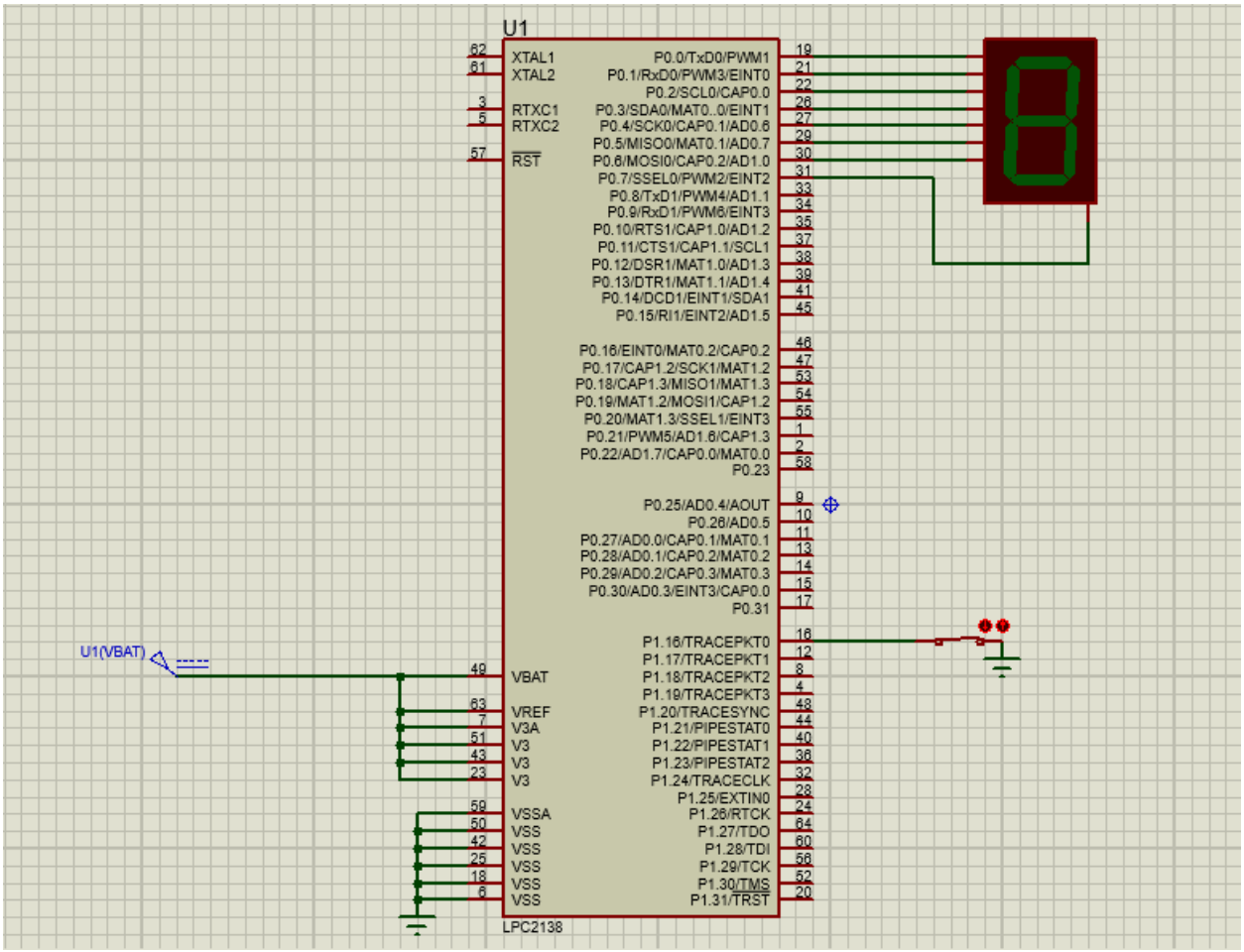
7 – Segment led anode type Display:

```
#include<lpc21xx.h>
void delay(unsigned int c)
{unsigned int a;
for(a=1;a<=40000;a++);
}
int main()
{
PINSEL0=0x00000000;
PINSEL1=0x00000000;
PINSEL2=0x00000000;
IO0DIR|=0xffffffff;
IO1DIR = ~(0x00010000);
while(1)
{
unsigned long int j;
int i,a[]={0xC0,0xF9,0xA4,0xB0,0x99,0x92,0x82,0xF8,0x80,0x90} ; // anode type
// int i,a[]={0x3f,0x06,0x5B,0x4F,0x66,0x6D,0x7D,0x07,0x7F,0x6F}; cathode type
int b[]={0x6F,0x7F,0x07,0x7D,0x6D,0x66,0x4F,0x5B,0x06,0x3F};
if(IO1PIN & (0x00010000))
{
for(j=0;j<10;j++)
{
IO0SET=IO0SET|a[j];
for(i=0;i<10;i++)
{
IO0SET= IO0SET|(a[i]<<8);
delay(20000);
IO0CLR= IO0CLR|(a[i]<<8);
} IO0CLR=a[j]; }
}
else {
for(j=0;j<10;j++)
{
IO0SET=IO0SET|b[j];
for(i=0;i<10;i++)
{
IO0SET= IO0SET|(b[i]<<8);
delay(20000);
IO0CLR= IO0CLR|(b[i]<<8);
}
IO0CLR=b[j];
}
}
}
}
```

Proteus Snapshot:



IR Sensor interface and Display Value On LCD :

```
#include<lpc214x.h>
#define bit(x) (1<<x)
#define delay for(i=0;i<2000;i++);
#define IR (IO1PIN & (1<<24))
unsigned int i;
void lcd_int();
void dat(unsigned char);
void cmd(unsigned char);
void string(unsigned char *);

void main()
{
   IO0DIR =0XFFF;
   IO1DIR = 0x0;
```

```
   lcd_int();
   cmd(0x80);
  // string("EMBETRONICX.COM ");

while(1)
{
        if(IR == 0) {
              string("Obstacle Detcted");
 }
else
{
          string("EMBETRONICX.COM ");
}
        delay;delay;
        cmd(0x01);
      }
}

void lcd_int()
{
   cmd(0x38);
   cmd(0x0c);
   cmd(0x06);
   cmd(0x01);
   cmd(0x80);
}

void cmd(unsigned char a)
{
   IO0PIN&=0x00;
   IO0PIN|=(a<<0);
   IO0CLR|=bit(8);            //rs=0
   IO0CLR|=bit(9);            //rw=0
   IO0SET|=bit(10);           //en=1
   delay;
   IO0CLR|=bit(10);           //en=0
}

void dat(unsigned char b)
{
   IO0PIN&=0x00;
   IO0PIN|=(b<<0);
   IO0SET|=bit(8);            //rs=1
   IO0CLR|=bit(9);            //rw=0
   IO0SET|=bit(10);           //en=1
   delay;
   IO0CLR|=bit(10);           //en=0
```

```
}

void string(unsigned char *p)
{

while(*p!='\0')
 {
      dat(*p++);
   }
}
```