

8051 Microcontroller Based LCD

```
# include<reg51.h>
```

```
sfr LCDd = 0xA0;
```

```
sbit RS    = P3^4;
```

```
sbit RW    = P3^5;
```

```
sbit E     = P3^6;
```

```
void timer ()
```

```
{
```

```
int i;
```

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

```
{
```

```
TMOD = 0x01;
```

```
TL0 = 0xFD;
```

```
TH0 = 0x4B;
```

```
TR0 = 1;
```

```
while(TF0 == 0);
```

```
TR0 = 0;
```

```
TF0 = 0;
```

```
}
```

```
}
```

```
void delay()
```

```
{
```

```
TMOD = 0x01;
```

```
TL0 = 0xFF;
```

```
TH0 = 0x5F;
```

```
TR0 = 1;
while(TF0 == 0);
TR0 = 0;
TF0 = 0;
}
```

```
void LCDC (unsigned int av0)
```

```
{
LCDd = av0;
RS = 0;
RW = 0;
E = 1;
delay();
E = 0;
}
```

```
void LCDD (unsigned int av1)
```

```
{
LCDd = av1;
RS = 1;
RW = 0;
E = 1;
delay();
E = 0;
}
```

```
void main()
{

int i,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,ii,jj;
LCDC(0x0E);
jj=0;
ii=0;
P1=0;
P3=0;
while(1)
{

for(i=48;i<58;i++)
{
LCDC(0x80);
LCDD(i);
timer();
for(j=48;j<58;j++)
{
LCDC(0x81);
LCDD(j);
timer();
for(k=48;k<58;k++)
{
LCDC(0x82);
LCDD(k);
timer();
```

```
for(l=48;l<58;l++)
{
LCDDC(0x83);
LCDD(l);
timer();
for(m=48;m<58;m++)
{
LCDDC(0x84);
LCDD(m);
timer();
for(n=48;n<58;n++)
{
LCDDC(0x85);
LCDD(n);
timer();
for(o=48;o<58;o++)
{
LCDDC(0x86);
LCDD(o);
timer();
for(p=48;p<58;p++)
{
LCDDC(0x87);
LCDD(p);
timer();
for(q=48;q<58;q++)
{
```

```
LCDC(0x88);
LCDD(q);
timer();
for(r=48;r<58;r++)
{
LCDC(0x89);
LCDD(r);
timer();
for(s=48;s<58;s++)
{
LCDC(0x8A);
LCDD(s);
timer();
for(t=48;t<58;t++)
{
LCDC(0x8B);
LCDD(t);
timer();
for(u=48;u<58;u++)
{
LCDC(0x8C);
LCDD(u);
timer();
for(v=48;v<58;v++)
{
LCDC(0x8D);
LCDD(v);
```

```
timer();
for(w=48;w<58;w++)
{
P3 = jj;
jj = jj+1;
LCDC(0x8E);
LCDD(w);
timer();
for(x=48;x<58;x++)
{
P1 = ii;
ii = ii+1;
LCDC(0x8F);
LCDD(x);
timer();
} //for 16
P1=0;
ii=0;
LCDC(0x8F);
LCDD(48);
} //for 15
P3=0;
jj=0;
LCDC(0x8E);
LCDD(48);
} //for 14
LCDC(0x8D);
```

```
LCDD(48);
}for 13
LCDC(0x8C);
LCDD(48);
}for 12
LCDC(0x8B);
LCDD(48);
}for 11
LCDC(0x8A);
LCDD(48);
}for 10
LCDC(0x89);
LCDD(48);
}for 09
LCDC(0x88);
LCDD(48);
}for 08
LCDC(0x87);
LCDD(48);
}for 07
LCDC(0x86);
LCDD(48);
}for 06
LCDC(0x85);
LCDD(48);
}for 05
LCDC(0x84);
```



```
LCDD(48);
```

```
}//for 04
```

```
LCDC(0x83);
```

```
LCDD(48);
```

```
}//for 03
```

```
LCDC(0x82);
```

```
LCDD(48);
```

```
}//for 02
```

```
LCDC(0x81);
```

```
LCDD(48);
```

```
LCDC(0x80);
```

```
LCDD(48);
```

```
}//for 01
```

```
}//while
```

```
}
```