ARM C code for buzzer

include<lpc21xx.h>

void delay(int);

int main()

{

IO0DIR=0x00000020;

while(1)

{

IO0SET=0x00000020;

delay(20000);

IO0CLR=0x00000020;

delay(20000);

}

}

void delay(int x)

{

int i;

for(i=0;i<x;i++);

}

ARM C code for LCD

#include<lpc21xx.h>

void command(unsigned int);

void data(unsigned int);

void delay(unsigned int);

int main()

{

unsigned char message[]= {"hello"};

unsigned int c[]={0x30,0x30,0x20,0x20,0x28,0x01,0x06,0x0e,0x89};

unsigned int i,j;

IO0DIR=0x000000fc;

for(i=0;i<9;i++)

{

command(c[i]);

delay(2000);

}

while(1)

{

command(0x89);

delay(2000);

for(j=0;j<5;j++)

{

data(message[j]);

delay(2000);

}

delay(2000);

command(0x10);

delay(2000);

}

}

void command(unsigned int x)

{

unsigned int y;

y=x;

y=y & 0x0f;

IO0CLR=0x000000fc;

IO0CLR=0x00000004;

IO0SET=y;

IO0SET=0x00000008;

delay(2000);

IO0CLR=0x00000008;

y=x;

y=y & 0x0f;

y=y<<4;

IO0CLR=0x00000004;

IO0SET=y;

IO0SET=0x00000008;

delay(2000);

IO0CLR=0x00000008;

}

void data(unsigned int a)

{

unsigned int b;

b=a;

b=b & 0x0f;

IO0CLR=0x000000fc;

IO0SET=0x00000004;

IO0SET=b;

IO0SET=0x00000008;

delay(100);

b=a;

b=b& 0x0f;

b=b<<4;

IO0CLR=0x000000fc;

IO0SET=0x00000004;

IO0SET=b;

IO0SET=0x00000008;

delay(100);

IO0CLR=0x00000008;

}

void delay(unsigned int x)

{

unsigned int i;

for(i=0;i<2000;i++);

}

**Stepper motor**

#include<lpc21xx.h>

void delay(unsigned int);

int main()

{

unsigned int x;

PINSEL2=0x0010000;

IO0DIR=0xf0000000;

IO1DIR=0x00000000;

x=IOPIN1;

x=x & 0x00f00000;

while(1)

{ if(x==0x00100000)

{

IO0SET=0x10000000;

delay(20000);

IO0CLR=0x10000000;

delay(20000);

IO0SET=0x20000000;

delay(20000);

IO0CLR=0x20000000;

delay(20000);

IO0SET=0x40000000;

delay(20000);

IO0CLR=0x40000000;

delay(20000);

IO0SET=0x80000000;

delay(20000);

IO0CLR=0x80000000;

delay(20000);

}

else

{

IO0SET=0x80000000;

delay(20000);

IO0CLR=0x80000000;

delay(20000);

IO0SET=0x40000000;

delay(20000);

IO0CLR=0x40000000;

delay(20000);

IO0SET=0x20000000;

delay(20000);

IO0CLR=0x20000000;

delay(20000);

IO0SET=0x10000000;

delay(20000);

IO0CLR=0x10000000;

delay(20000);

}

}

}

void delay(unsigned int x)

{

unsigned int i;

for(i=0;i<x;i++);

}

Arm c code to have led walking display from left to right and right to left

Program:

#include<lpc21xx.h>

int main()

{

unsigned char I;

PINSEL1=0x00000000;

IODIR0=0x000f0000;

while(1)

{

IOCLR0=0x00010000;

for(i=0;i<1000;i++);

IOSET0=0x00010000;

IOCLR0=0x00020000;

for(i=0;i<1000;i++);

IOSET0=0x00020000;

IOCLR0=0x00040000;

for(i=0;i<1000;i++);

IOSET0=0x00040000;

IOCLR0=0x00080000;

for(i=0;i<1000;i++);

IOSET0=0x00080000;

IOCLR0=0x00040000;

for(i=0;i<1000;i++);

IOSET0=0x00040000;

IOCLR0=0x00020000;

for(i=0;i<1000;i++);

IOSET0=0x00020000;

IOCLR0=0x00010000;

}

}

//Arm C code to display Johnson counter using led’s

Program:

#include<lpc21xx.h>

int main()

{

unsigned char i;

PINSEL1=0x00000000;

IODIR0=0x000f0000;

while(1)

{

IOSET0=0x000f0000;

for(i=0;i<1000;i++);

IOCLR0=0x00080000;

for(i=0;i<1000;i++);

IOCLR0=0x00040000;

for(i=0;i<1000;i++);

IOCLR0=0x00020000;

for(i=0;i<1000;i++);

IOCLR0=0x000f0000;

for(i=0;i<1000;i++);

IOSET0=0x00080000;

for(i=0;i<1000;i++);

IOSET0=0x00040000;

for(i=0;i<1000;i++);

IOSET0=0x00020000;

for(i=0;i<1000;i++);

}

}

//Program to control the stepper and dc motor using UART

If ‘s’-stepper motor

If ‘d’-DC motor

#include<LPC21xx.h>

void delay(void);

void serial(void);

unsigned char mg,g;

int main()

{

unsigned int k,y;

while(1)

{

serial();

while(!(U0LSR & 0X01));

mg=U0RBR;

U0THR=mg;

delay();

if(mg=='s')

{

PINSEL0=0x0000000;

IODIR0=0xf0000000;

IOCLR0=0Xf0000000;

for(k=0;k<=25;k++)

{

IOSET0=0x10000000;

delay();

delay();

IOCLR0=0x10000000;

IOSET0=0x20000000;

delay();

delay();

IOCLR0=0x20000000;

IOSET0=0x40000000;

delay();

delay();

IOCLR0=0x40000000;

IOSET0=0x80000000;

delay();

delay();

IOCLR0=0x80000000;

}

}

else if(mg=='d')

{

PINSEL1=0x00000000;

IODIR0=0x00000C00;

IOCLR0=0x00000C00;

for(y=0;y<=15;y++)

{

IOSET0=0x00000400;

IOCLR0=0x00000800;

delay();

IOSET0=0x00000800;

IOCLR0=0x00000400;

delay();

}

}

}

}

void serial()

{

PINSEL0=0X00000005;

U0LCR=0X83;

U0DLL=0X61;

U0LCR=0X03;

}

void delay()

{

unsigned int i;

for(i=0;i<1000000;i++);

}

//ARM C code to display a string of message both on UART AND LCD

PROGRAM:

#include<lpc21xx.h>

void delay(void);

void serial(void);

void cmd(unsigned int);

void data(unsigned int);

int main()

{ unsigned char mg;

unsigned int c[]={0x30,0x30,0x20,0x20,0x28,0x01,0x06,0x0e,0x89};

unsigned char i,j;

unsigned int k,m;

unsigned char msg[]={"BVB"};

PINSEL0=0x00000000;

IODIR0=0x000000fc;

IOCLR0=0x000000fc;

serial();

for(k=0;k<3;k++)

{

while(!(U0LSR&0x20));

U0THR=msg[k];

}

while(!(U0LSR&0x01));

mg=U0RBR;

U0THR=mg;

delay();

for(i=0;i<9;i++)

{

cmd(c[i]);

delay();

}

while(1)

{

cmd(0xc0);

delay();

for(j=0;j<3;j++)

{

data(msg[j]);

for(m=0;m<500;m++);

}

for(m=0;m<65000;m++);

for(m=0;m<65000;m++);

for(m=0;m<65000;m++);

cmd(0x01);

for(m=0;m<65000;m++);

for(m=0;m<65000;m++);

for(m=0;m<65000;m++);

for(m=0;m<65000;m++);

}

}

void serial()

{

PINSEL0=0x00000005;

U0LCR=0x83;

U0DLL=0x61;

U0LCR=0x03;

}

void cmd(unsigned int value)

{

unsigned int y,m;

y=value;

y=y & 0xf0;

IOCLR0=0x000000fc;

IOCLR0=0X00000004;

IOSET0=y;

IOSET0=0x00000008;

for(m=0;m<10;m++);

IOCLR0=0x00000008;

y=value;

y=y&0x0f;

y=y<<4;

IOCLR0=0x000000fc;

IOCLR0=0X00000004;

IOSET0=y;

IOSET0=0x00000008;

for(m=0;m<10;m++);

IOCLR0=0x00000008;

}

void data(unsigned int data)

{

unsigned int y,m;

y=data;

y=y & 0xf0;

IOCLR0=0x000000fc;

IOSET0=0X00000004;

IOSET0=y;

IOSET0=0x00000008;

for(m=0;m<10;m++);

IOCLR0=0x00000008;

y=data;

y=y & 0x0f;

y=y<<4;

IOCLR0=0x000000fc; IOSET0=0X00000004;

IOSET0=y;

IOSET0=0x00000008;

for(m=0;m<10;m++);

IOCLR0=0x00000008;

}

void delay()

{

unsigned int l;

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

}

ARM C program for displaying 0-99 on seven segment

#include<lpc21xx.h>

int delay1();

void delay()

{

int i;

for(i=0;i<2000000;i++);

}

main()

{

int j;

int b[10]={0x003f0000,0x0006000,0x005b0000,0x004f0000,0x00660000,0x006d0000,0x007d0000,0x00700000,0x007f0000,0x006f0000};

for(j=0;j<10;j++)

{

IO0DIR=0x10FF0000;

IO0SET=0x10000000;

IO0SET=b[j];

delay1();

}

}

int delay1()

{ int i;

int a[10]={0x003f0000,0x0006000,0x005b0000,0x004f0000,0x00660000,0x006d0000,0x007d0000,0x00700000,0x007f0000,0x006f0000};

for(i=0;i<10;i++)

{

IO0DIR=0x20FF0000;

IO0SET=0x20000000;

IO0SET=a[i];

delay();

IO0CLR=a[i];

delay();

}

}

// ARM C code using 4x4 keypad to find LCM and GCD of a given two numbers based on choice of following keys

Key10:LCM

Key15:GCD

Display the result on lcd.

Program:

#include<stdio.h>

#include<lpc214x.h>

void delay(unsigned int k);

void display(int i);

int lcm(int a,int b);

int gcd(int a,int b);

int main()

{

unsigned int value,i;

unsigned int row0[4]={0x00ee0000,0x00ed0000,0x00eb0000,0x00e70000};

unsigned int row1[4]={0x00de0000,0x00dd0000,0x00db0000,0x00d70000};

unsigned int row2[4]={0x00be0000,0x00bd0000,0x00bb0000,0x00b70000};

unsigned int row3[4]={0x007e0000,0x007d0000,0x007b0000,0x00770000};

PINSEL1=0x00000000;

IO1DIR=0xfff0ffff;

IODIR0=0X10FF0000;

IOSET0=0X10000000;

while(1)

{

IOPIN1=0x00ff0000;

IOCLR1=0x00100000;

value=IOPIN1;

delay(50000);

value=value&0x00ff0000;

for(i=0;i<4;i++)

{

if(value==row0[i])

{

display(i);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

}

}

IOPIN1=0x00ff0000;

IOCLR1=0x00200000;

value=IOPIN1;

delay(50000);

value=value&0x00ff0000;

for(i=0;i<4;i++)

{

if(value==row1[i])

{

display(i+4);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

}

}

IOPIN1=0x00ff0000;

IOCLR1=0x00400000;

value=IOPIN1;

delay(50000);

value=value&0x00ff0000;

if(value==row2[1])

{

i=lcm(1,4);

display(i);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

}

IOPIN1=0x00ff0000;

IOCLR1=0x00800000;

value=IOPIN1;

delay(50000);

value=value&0x00ff0000;

if(value==row3[3])

{

i=gcd(10,12);

display(i);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

}

}

}

void delay(unsigned int k)

{

unsigned int i;

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

}

void display(int temp)

{

unsigned int i,j,k;

int a[10]={0x003f0000,0x00060000,0x005b0000,0x004f0000,0x00660000,

0x006d0000,0x007d0000,0x00070000,0x007f0000,0x006f0000};

j=temp%10;

i=temp/10;

IOCLR0=0x00ff0000;

for(k=0;k<30000;k++)

{

IOSET0=a[j]|0x20000000;

delay(150);

IOCLR0=a[j]|0x20000000;

delay(150);

IOSET0=a[i]|0x10000000;

delay(150);

IOCLR0=a[i]|0x10000000;

delay(150);

}

}

int gcd(int a,int b)

{

if(a==0||b==0)

return 0;

if(a==b)

return a;

if(a>b)

return(gcd(a-b,b));

return (gcd(a,b-a));

}

int lcm(int a,int b)

{

return((a\*b)/gcd(a,b));

}

UART controlled sorting of array of user defined elements (upto 10)

If ' a ' is pressed - sort given array in half ascending and half descending format.

If ' b ' is pressed - sort given array in half descending and half ascending format.

CODE:

#include<lpc21xx.h>

void delay(void);

void serial(void);

unsigned int i,j,a;

unsigned char k;

unsigned char msg1[]={"Enter the length of array: \n"};

unsigned char msg2[]={"a for ascending b for descending \n"};

unsigned int mg;

int main()

{

unsigned int i;

unsigned int number[20];

serial();

for(i=0;i<29;i++)

{

while(!(U0LSR & 0x20));

U0THR = msg1[i];

}

while(!(U0LSR & 0x01));

mg = U0RBR;

while(!(U0LSR & 0x20));

U0THR = mg;

mg = mg - 48;

for(i=0;i<mg;i++)

{

while(!(U0LSR & 0x01));

number[i] = U0RBR;

while(!(U0LSR & 0x20));

U0THR = number[i];

delay();

}

for(i=0;i<35;i++)

{

while(!(U0LSR & 0x20));

U0THR = msg2[i];

}

while(!(U0LSR & 0x01));

k = U0RBR;

if(k == 'a')

{

for (i = 0; i < mg/2; ++i)

{

for (j = i + 1; j < mg/2; ++j)

{

if (number[i] > number[j])

{

a = number[i];

number[i] = number[j];

number[j] = a;

}

}

}

for (i = mg-1; i >= mg/2; --i)

{

for (j = i - 1; j >= mg/2; --j)

{

if (number[i] > number[j])

{

a = number[i];

number[i] = number[j];

number[j] = a;

}

}

}

}

if(k == 'b')

{

for (i = 0; i < mg/2; ++i)

{

for (j = i + 1; j < mg/2; ++j)

{

if (number[i] < number[j])

{

a = number[i];

number[i] = number[j];

number[j] = a;

}

}

}

for (i = mg-1; i >= mg/2; --i)

{

for (j = i - 1; j >= mg/2; --j)

{

if (number[i] < number[j])

{

a = number[i];

number[i] = number[j];

number[j] = a;

}

}

}

}

for(i=0;i<mg;i++)

{

while(!(U0LSR & 0x20));

U0THR = number[i];

delay();

}

}

void serial(void)

{

PINSEL0 = 0x00000005;

U0LCR = 0x83;

U0DLL = 0x61;

U0LCR = 0x03;

}

void delay(void)

{

unsigned int i;

for(i=0;i<12000;i++);

}

Control the message display on lcd using 4x4 keypad as follows.

Key1:right to left display of message

Key2: scrolling display of message using both first and second line(circular fashion).

**PROGRAM:**

#include<lpc21xx.h>

void cmd(unsigned int);

void delay(unsigned int);

void d1(unsigned int);

void d2(unsigned int);

void data(unsigned int);

int main(){

unsigned long int val, i;

unsigned int row0[4] = {0x00ee0000, 0x00ed0000, 0x00eb0000, 0x00e70000};

IODIR1 = 0xFFF0FFFF;

PINSEL1 = 0x00000000;

IODIR0 = 0xF0FF0000;

IOSET0 = 0xE0000000;

while(1){

IOPIN1 = 0x00ff0000;

IOCLR1 = 0x00100000;

val = IOPIN1;

delay(50000);

val = val & 0x00ff0000;

for(i=0; i<4; i++){

if(val==row0[i])

{

if(i==1)

d1(i);

else if(i==0)

d2(i);

delay(65000); delay(65000); delay(65000); delay(65000);

}

}

}

}

void delay(unsigned int x){

unsigned int i;

for(i = 0; i<x; i++);

}

void cmd(unsigned int value)

{

unsigned int y;

y = value;

y = y & 0xf0;

IOCLR0 = 0x000000fc;

IOCLR0 = 0x00000004;

IOSET0 = y;

IOSET0 = 0x00000008;

delay(10);

IOCLR0 = 0x00000008;

y = value;

y = y & 0x0f;

y = y<<4;

IOCLR0 = 0x000000fc;

IOCLR0 = 0x00000004;

IOSET0 = y;

IOSET0 = 0x00000008;

delay(10);

IOCLR0 = 0x00000008;

}

void data(unsigned int dat){

unsigned int y;

y = dat;

y = y&0xf0;

IOCLR0 = 0x000000fc;

IOSET0 = 0x00000004;

IOSET0 = y;

IOSET0 = 0x00000008;

delay(10);

IOCLR0 = 0x00000008;

y = dat;

y = y&0x0f;

y = y<<4;

IOCLR0 = 0x000000fc;

IOSET0 = 0x00000004;

IOSET0 = y;

IOSET0 = 0x00000008;

delay(10);

IOCLR0 = 0x00000008;

}

void d1(unsigned int x)

{

unsigned char msg[] = {"hello"};

unsigned int c[] = { 0x20, 0x20, 0x28,0x28, 0x01, 0x06, 0x0e, 0xcf};

unsigned char i,j;

PINSEL0 = 0x00000000;

IODIR0 = 0x000000fc;

IOCLR0 = 0x000000fc;

for(i=0; i<9;i++){

cmd(c[i]);

delay(10000);

}

while(1){

cmd(0xcf);

delay(1000000);

for(j=0; j<5; j++)

{

data(msg[j]);

cmd(0x10);

delay(1000000);

cmd(0x18);

delay(650000);

delay(650000);

delay(650000);

}

delay(650000);

delay(650000);

}

}

void d2(unsigned int x)

{

unsigned char msg[] = {"hi"};

unsigned int c[] = { 0x20, 0x20, 0x28,0x28, 0x01, 0x06, 0x0e, 0x8f};

unsigned char i,j;

PINSEL0 = 0x00000000;

IODIR0 = 0x000000fc;

IOCLR0 = 0x000000fc;

for(i=0; i<9;i++){

cmd(c[i]);

delay(10000);

}

while(1){

cmd(0x8f);

delay(1000000);

for(j=0; j<2; j++)

{

data(msg[j]);

cmd(0x10);

delay(1000000);

cmd(0x18);

delay(650000);

delay(650000);

delay(650000);

delay(650000);

delay(650000);

}

break;

delay(650000);

delay(650000);

delay(650000);

delay(650000);

}

}

Use 4x4 keypad to demonstrate the function of mobile keypad

Program:

#include<lpc21xx.h>

void delay(unsigned int);

void disp(unsigned int);

void cmd(unsigned int);

void data(unsigned int);

int z=0,g=0,h=0;

int main()

{

unsigned long int value, i;

unsigned int row0[4]={ 0x00ee0000,0x00ed0000,0x00eb0000,0x00e70000};

unsigned int row1[4]={ 0x00de0000,0x00dd0000,0x00db0000,0x00d70000};

unsigned int row2[4]={ 0x00be0000,0x00bd0000,0x00bb0000,0x00b70000};

unsigned int row3[4]={ 0x007e0000,0x007d0000,0x007b0000,0x00770000};

IODIR1 = 0X00F00000;

PINSEL0=0x00000000;

IODIR0=0x000000FC;

IOCLR0=0x000000FC;

while(1)

{

IOPIN1=0x00ff0000;

IOCLR1=0x00100000;

value=IOPIN1;

delay(50000);

value=value & 0x00ff0000;

for(i=0; i<3;i++)

{

if(value==row0[0])

{

//temp1=row0[i];

//while(value==temp1)

disp(49);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

} }

if(value==row0[2])

{

if(z==3)

{

disp(51);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

z=0;

} //temp1=row0[i];

else

{//while(value==temp1)

disp(z+68);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

z++;}

}

if(value==row0[1])

{

if(g==3)

{

disp(50);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

g=0;

}

//temp1=row0[i];

//while(value==temp1)

else

{

disp(g+65);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

g++;

}

}

IO1PIN=0x00ff0000;

IOCLR1=0x00200000;

value=IOPIN1;

delay(50000);

delay(50000);

value=value & 0x00ff0000;

if(value==row1[0])

{

if(h==3)

{

disp(52);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

h=0;

}

//temp1=row0[i];

//while(value==temp1)

else

{

disp(h+71);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

h++;

} }

if(value==row1[1])

{

if(z==3)

{

disp(53);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

z=0;

} //temp1=row0[i];

else

{//while(value==temp1)

disp(z+74);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

z++;}

}

if(value==row1[2])

{

if(g==3)

{

disp(54);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

g=0;

}

//temp1=row0[i];

//while(value==temp1)

else

{

disp(g+77);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

g++;

}

} }

if(value==row2[0])

{

if(h==3)

{

disp(52);

delay(1275000);

delay(1275000);

delay(1275000);

h=0;

}

//temp1=row0[i];

//while(value==temp1)

else

{

disp(h+71);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

h++;

} }

if(value==row2[1])

{

if(z==3)

{

disp(53);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

z=0;

} //temp1=row0[i];

else

{//while(value==temp1)

disp(z+74);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

z++;}

}

if(value==row2[2])

{

if(g==3)

{

disp(54);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

g=0;

}

//temp1=row0[i];

//while(value==temp1)

else

{

disp(g+77);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

delay(1275000);

g++;

}

} }

void disp(unsigned int temp)

{

unsigned char msg=temp;

unsigned int c[]={0x30,0x30,0x20,0x20,0x28,0x01,0x06,0x0e,0x89};

unsigned char i;

PINSEL0=0x00000000;

IODIR0=0x000000FC;

IOCLR0=0x000000FC;

for(i=0;i<9;i++)

{

cmd(c[i]);

delay(10000);

}

delay(65000);

cmd(0x01);

delay(65000);

{

cmd(0x80);

delay(100000);

{

data(msg);

delay(50000);

//delay(50000);

}

delay(65000);

delay(65000);

//

//cmd(0x01);

delay(65000);

//delay(65000);

//delay(65000);

//delay(65000);

}

}

void cmd(unsigned int value)

{

unsigned int y;

y=value;

y=y & 0xf0;

IOCLR0=0x000000fc;

IOCLR0=0x00000004;

IOSET0=y;

IOSET0=0x00000008;

delay(10);

IOCLR0=0x00000008;

y=value;

y=y & 0x0f;

y=y<<4;

IOCLR0=0x000000fc;

IOCLR0=0x00000004;

IOSET0=y;

IOSET0=0x00000008;

delay(10);

IOCLR0=0x00000008;

}

void data(unsigned int data)

{

unsigned int y;

y=data;

y=y & 0xf0;

IOCLR0=0x000000fc;

IOSET0=0x00000004;

IOSET0=y;

IOSET0=0x00000008;

delay(10);

IOCLR0=0x00000008;

y=data;

y=y & 0x0f;

y=y<<4;

IOCLR0=0x000000fc;

IOSET0=0x00000004;

IOSET0=y;

IOSET0=0x00000008;

delay(10);

IOCLR0=0x00000008;

}

void delay(unsigned int del)

{

unsigned int k;

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

}

4x4 keypad controlled stepper motor and display the number of rotationgs on seven segment

Program:

#include<lpc21xx.h>

void delay(unsigned int);

void disp(unsigned int);

int main()

{

unsigned long int value,i,j;

Unsigned int b=1;

unsigned int row0=0x00ee0000;

IO1DIR =0XFFF0FFFF;

PINSEL1=0x00000000;

IODIR0=0xf0ff0000;

IOSET0=0X20000000;

while(1)

{

IO1PIN=0x00ff0000;

IOCLR1=0x00100000;

value=IOPIN1;

delay(50000);

value=value & 0x00ff0000;

if(value==row0)

{

PINSEL0=0x00000000;

IODIR0=0xf0000000;

IOCLR0=0Xf0000000;

for(j=0;j<500;j++)

{

for(i=0;i<50;i++)

{

IOSET0=0x80000000;

delay(30000);

// delay(1000000);

IOCLR0=0xF0000000;

IOSET0=0x40000000;

delay(30000);

//delay(1000000);

IOCLR0=0xF0000000;

IOSET0=0x20000000;

delay(30000);

// delay(1000000);

IOCLR0=0xF0000000;

IOSET0=0x10000000;

delay(30000);

//delay(1000000);

IOCLR0=0x10000000;

}

disp(b);

b++;

}

}

}

}

void disp(unsigned int temp)

{

unsigned int da[16]={0x003F0000,0x00060000,0x005B0000,0x004F0000,0x00660000,0x006D0000,

0x007D0000,0x00070000,0x007F0000,0x006F0000,

0x00770000,0x007F0000,

0x00390000,0x003F0000,0x00790000,0x00710000};

unsigned int i;

i=temp;

PINSEL1=0X00000000;

IODIR0=0X30FF0000;

IOSET0=0X20000000;

IOSET0=da[i];

delay(65000);

delay(65000);

delay(65000);

delay(65000);

delay(65000);

IOCLR0=0X00FF0000;

}

void delay(unsigned int del)

{unsigned int k;

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

}

ARM C program tp demonstrate the working of calculator using UART

PROGRAM:

#include<lpc21xx.h>

#include<stdio.h>

int main()

{

unsigned char x;

unsigned char a[100];

unsigned int p,b,c,i=0;

PINSEL0=0X00000005;

U0LCR=0X83;

U0DLM=0X00;

U0DLL=0X61;

U0LCR=0X03;

while(1)

{

while(!(U0LSR & 0X01));

p=U0RBR;

while(!(U0LSR & 0X20));

U0THR=p;

p=p-48;

while(!(U0LSR & 0X01));

x=U0RBR;

while(!(U0LSR & 0X20));

U0THR=x;

if(x=='+')

{

while(!(U0LSR & 0X01));

b=U0RBR;

while(!(U0LSR & 0X20));

U0THR=b;

b=b-48;

c=p+b;

sprintf(a,"=%d \n",c);

while(a[i]!='\0')

{

while(!(U0LSR & 0x20));

U0THR=a[i];

i++;

}

}

else if(x=='-')

{

while(!(U0LSR & 0X01));

b=U0RBR;

while(!(U0LSR & 0X20));

U0THR=b;

b=b-48;

c=p-b;

sprintf(a,"=%d \n",c);

while(a[i]!='\0')

{

while(!(U0LSR & 0x20));

U0THR=a[i];

i++;

}

}

else if(x=='\*')

{

while(!(U0LSR & 0X01));

b=U0RBR;

while(!(U0LSR & 0X20));

U0THR=b;

b=b-48;

c=p\*b;

sprintf(a,"=%d \n",c);

while(a[i]!='\0')

{

while(!(U0LSR & 0x20));

U0THR=a[i];

i++;

}

}

else

{

while(!(U0LSR & 0X01));

b=U0RBR;

while(!(U0LSR & 0X20));

U0THR=b;

b=b-48;

c=p/b;

sprintf(a,"=%d \n",c);

while(a[i]!='\0')

{

while(!(U0LSR & 0x20));

U0THR=a[i];

i++;

}

}

}

}