```c
#include "lpc214x.h"

unsigned int COL[]={4,5,6,7};
unsigned int KeyCodes[]={'1','4','7','*','2','5','8','0','3','6','9','#','A','B','C','D'};

void delay(unsigned int time)
{
unsigned int i,j;
 for(i = 0; i < time ;i++ )
 {
  for(j = 0; j < 10000 ; j++);
 }
}

unsigned char GetKey(unsigned int* Key)
{
unsigned int col,rowdata,count=0;

for(col = 0 ; col < 4 ; col++)
{
 IOCLR0 = 1 << COL[col] ;   // set the column line low
 delay(2);        //debounce
 rowdata = IOPIN0;
 delay(1);        //debounce
 rowdata = IOPIN0;
 rowdata >>= 8;

 if((rowdata & 0xF)!=0xF)
 {
  for(count = 0; count < 4 ; count++)
  {
   if((rowdata & 0x01)== 0)
   {
    *Key = KeyCodes[(col*4)+ count];
    IOSET0 = 1 << COL[col] ;   // set the column line HIGH
    return 1;
   }
   rowdata >>= 1;
  }
 }
 IOSET0 = 1 << COL[col] ;   // set the column line HIGH
}

return 0;
}


int main(void)
{
unsigned int keycode;
unsigned char *ch = "Key Pressed ->";
LCD_init();
PINSEL0 = 0x00000000;
IODIR0 = 0x000ff0f0;
IOSET0 = 0x000000F0;
while(*ch)
 LCD_data(*ch++);


while(1)
{
 if(GetKey(&keycode))
 {
  LCD_cmd(0xc4);
  LCD_data(keycode);
  delay(100);
 }
```

```
    }
    return 0;
}
```