```
 1: #include "TM4C123GH6PM.h"
 2: extern void OutStr(char*);
 3: int value1,value2;
 4: char msg1[100],msg2[100];
 5: int new_number,int_number,detect;
 6: int ;
 7: void print_number(int number);
 8: void init_gpio_adc();
 9: int take_value();
10: void print_number_with_decimal(int number);
11: void systick_init();
12: void print_number_with_decimal(int number)
13: {
14:         int i=0,j=0;
15:         if(number>99)
16:             detect=2;
17:         else if(number<100 && number>9)
18:             detect=1;
19:         else if(number>0 && number<10)
20:         {
21:             detect=0;
22:         }
23:         else if(number<-9 && number>-100)
24:         {
25:             detect=3;
26:             number=number*(-1);
27:         }
28:         else if(number<0 && number>-10)
29:         {
30:             detect=5;
31:             number=number*(-1);
32:         }
33:         else if(number<-99)
34:         {
35:             detect=4;
36:             number=number*(-1);
37:         }
38:         while(number){
39:             new_number=number/10;
40:             msg1[i]=number-(new_number*10)+48;
41:             number=new_number;
42:             i++;
43:         }
44:         if(detect==1)
45:         {
46:             msg2[j]=48;
47:             j++;
48:             msg2[j]=44;
49:             j++;
50:             for(i=i-1;i>=0;i--)
51:             {
52:                 msg2[j]=msg1[i];
53:                 j++;
54:             }
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        }
        else if(detect==2)
        {
            for(i=i-1;i>=0;i--)
            {
                if(i==1)
                {
                    msg2[j]=44;
                    j++;
                }
                msg2[j]=msg1[i];
                j++;
            }
        }
        else if(detect==3)
        {
            msg2[j]=45;
            j++;
            msg2[j]=48;
            j++;
            msg2[j]=44;
            j++;
            for(i=i-1;i>=0;i--)
            {
                msg2[j]=msg1[i];
                j++;
            }
        }
        else if(detect==4)
        {
            msg2[j]=45;
            j++;
            for(i=i-1;i>=0;i--)
            {
                if(i==1)
                {
                    msg2[j]=44;
                    j++;
                }
                msg2[j]=msg1[i];
                j++;
            }
        }
        else if(detect==0)
        {
            msg2[j]=48;
            j++;
            msg2[j]=44;
            j++;
            msg2[j]=48;
            j++;
            for(i=i-1;i>=0;i--)
            {
                msg2[j]=msg1[i];
```

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109:                 j++;
110:             }
111:         }
112:         else if(detect==5)
113:         {
114:             msg2[j]=45;
115:             j++;
116:             msg2[j]=48;
117:             j++;
118:             msg2[j]=44;
119:             j++;
120:             msg2[j]=48;
121:             j++;
122:             for(i=i-1;i>=0;i--)
123:             {
124:                 msg2[j]=msg1[i];
125:                 j++;
126:             }
127:         }
128:         msg2[j]='\r';
129:         msg2[j+1]='\4';
130:         OutStr(msg2);
131: }
132: void print_number(int number)
133: {
134:         int i=0,j=0;
135:         while(number){
136:             new_number=number/10;
137:             msg1[i]=number-(new_number*10)+48;
138:             number=new_number;
139:             i++;
140:         }
141:         for(i=i-1;i>=0;i--){
142:         msg2[j]=msg1[i];
143:         j++;
144:         }
145:
146:         msg2[j]='\r';
147:         msg2[j+1]='\4';
148:         OutStr(msg2);
149: }
150: void init_gpio_adc()
151: {
152:     SYSCTL->RCGCADC |= 0x1;
153:     value1= SYSCTL->PRADC;
154:     __NOP();
155:     __NOP();
156:     __NOP();
157:     SYSCTL->RCGCGPIO |= 0x10;
158:     __NOP();
159:     __NOP();
160:     __NOP();
161:     GPIOE->AFSEL |=0x08;
162:     GPIOE->DEN |= 0x08;
```

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163:     GPIOE->AMSEL |= 0x08;
164:     //GPIOE->DIR |= ~0x08;
165:     ADC0->ACTSS |= 0x08;
166:     ADC0->EMUX |= ~0xF000;
167:     ADC0->SSMUX3 |=0x0000;
168:     ADC0->SSCTL3 |=0x06;
169:     ADC0->PC |=0x01;
170:     ADC0->ACTSS |=0x08;
171:
172: }
173: int take_value()
174: {
175:     while(1)
176:     {
177:             ADC0->PSSI |= 0x08;
178:             while(1)
179:             {
180:                 if(ADC0->RIS & 0x08)
181:                 {
182:                     break;
183:                 }
184:             }
185:             value2=ADC0->SSFIFO3;
186:             ADC0->ISC |= 0x08;
187:             return(value2);
188:     }
189: }
190: void systick_init()
191: {
192:     SysTick->LOAD = 1599999; // C o n fi g u r e l o a d v al u e
193:     SysTick->VAL = 0; // Cl e a r the tim e r r e g i s t e r by w ri ti n g t o
194:     SysTick->CTRL = 0x07 ; // s o u r c e system bus , i n t e r r u p t en ablea
195:
196: }
197: void init_LED(){
198:     SYSCTL->RCGCGPIO |= 0x20 ;
199:     GPIOF->DIR |= 0x8 ; // s e t GREEN pin a s a d i g i t a l output pin
200:     GPIOF->DEN |= 0x8 ; // Enable PF2 pin a s a d i g i t a l pin
201:
202:
203: }
```