```c
#include <MicroLABlet.h>
#include <readkey.c>
#define control_register 0x00
#define data_register 0x01
#define LCD_data P1
#define first_line 0x80
#define second_line 0xC0

sbit LCD_enable=P3^7;
sbit LCD_register_select=P3^6;
sbit press_1=P3^4;
sbit press_0=P3^2;
sbit relay_control_signal=P2^0;
enable=0;

unsigned char message_three[]={"BackUp :press S1"};
unsigned char message_four[] ={"SetTime:press S4"};
unsigned char message_five[] ={"Date -01/01/2022"};
unsigned char message_six[]  ={"Time - 00:00:00 "};
unsigned char ascii[]="0123456789";

unsigned char
check,HourH,HourL,DateH,DateL,MonthH,MonthL,YearH,YearL,MinH,MinL,SecH,SecL,SetHH4B=0,SetHL4B=0,SetMH4B=0
,SetML4B=0,SetSH4B=0,SetSL4B=0;
unsigned char  cursor_count=0x86;
unsigned char flag=0;

void LCD_Initialization();
void LCD_command_write(unsigned char command_value);
void LCD_message_write(unsigned char message_charactor);

void main ()
 {
    unsigned char charactor_count;

    LCD_Initialization();

    charactor_count=0;
    LCD_command_write(0X80);
      while(message_three[charactor_count]!='\0')
        {
          LCD_message_write(message_three[charactor_count]);
          charactor_count++;
        }

    charactor_count=0;
    LCD_command_write(0XC0);
      while(message_four[charactor_count]!='\0')
        {
          LCD_message_write(message_four[charactor_count]);
          charactor_count++;
        }

 while(1)
  {
    if(press_1==1 | press_0==0)
      {
        break;
      }
  }

 while(1)
  {
    if(press_1==1)
      {
        flag=1;
      }

    if(press_0==0)
      {
        flag=0;
      }
```

```
71
72        if(flag==1)
73          {
74            charactor_count=0;
75            LCD_command_write(0X80);
76            while(message_five[charactor_count]!='\0')
77              {
78                LCD_message_write(message_five[charactor_count]);
79                charactor_count++;
80              }
81
82            charactor_count=0;
83            LCD_command_write(0XC0);
84            while(message_six[charactor_count]!='\0')
85              {
86                LCD_message_write(message_six[charactor_count]);
87                charactor_count++;
88              }
89            goto timeSection;
90          }
91
92        if(flag==0)
93          {
94            charactor_count=0;
95            LCD_command_write(0X80);
96              while(message_five[charactor_count]!='\0')
97                {
98                  LCD_message_write(message_five[charactor_count]);
99                  charactor_count++;
100               }
101
102           charactor_count=0;
103           LCD_command_write(0XC0);
104             while(message_six[charactor_count]!='\0')
105               {
106                 LCD_message_write(message_six[charactor_count]);
107                 charactor_count++;
108               }
109
110           for(cursor_count=0x86;cursor_count<=0xCF;cursor_count++)
111             {
112               LCD_command_write(cursor_count);
113               LCD_command_write(0X0f);
114               delay(500);
115               key_value=readkey();
116               LCD_command_write(cursor_count);
117               LCD_message_write(ascii[key_value]);
118                 if (cursor_count==0x86)
119                   {
120                     DateH=key_value;
121                   }
122                 if (cursor_count==0x87)
123                   {
124                     DateL=key_value;
125                   }
126                 if (cursor_count==0x89)
127                   {
128                     MonthH=key_value;
129                   }
130                 if (cursor_count==0x8A)
131                   {
132                     MonthL=key_value;
133                     cursor_count=0xC6;
134                   }
135                 if (cursor_count==0xC7)
136                   {
137                     HourH=key_value;
138                   }
139                 if (cursor_count==0xC8)
140                   {
141                     HourL=key_value;
142                   }
```

```
143                 if (cursor_count==0xCA)
144                   {
145                     MinH=key_value;
146                   }
147                 if (cursor_count==0xCB)
148                   {
149                     MinL=key_value;
150                   }
151                 if(cursor_count==0xCB)
152                   {
153                     cursor_count=0XCF;
154                     LCD_command_write(cursor_count);
155                   }
156                 if(cursor_count==0x87 | cursor_count==0x8A | cursor_count==0xC8 |cursor_count==0xCB )
157                   {
158                     cursor_count++;
159                   }
160                 if(cursor_count==0xCF)
161                   {
162                     for(check=0;check<(check+1);check++)
163                       {
164                         if(check==0)
165                           {
166                             if(DateH>3)
167                               {
168                                 cursor_count=0x85;
169                                 LCD_command_write(cursor_count);
170                                 break;
171                               }
172                             else{check=0;}
173                           }
174
175                         if(check==1)
176                           {
177                             if(DateH==3 & DateL>1)
178                               {
179                                 cursor_count=0x86;
180                                 LCD_command_write(cursor_count);
181                                 break;
182                               }
183                             else{check=1;}
184                           }
185
186                         if(check==2)
187                           {
188                             if(DateH==0 & DateL==0)
189                               {
190                                 cursor_count=0x86;
191                                 LCD_command_write(cursor_count);
192                                 break;
193                               }
194                             else{check=2;}
195                           }
196
197                         if(check==3)
198                           {
199                             if(MonthH>1)
200                               {
201                                 cursor_count=0x88;
202                                 LCD_command_write(cursor_count);
203                                 break;
204                               }
205                             else{check=3;}
206                           }
207
208                         if(check==4)
209                           {
210                             if(MonthH==1 & MonthL>2)
211                               {
212                                 cursor_count=0x89;
213                                 LCD_command_write(cursor_count);
214                                 break;
```

```
                    }
                  else{check=4;}
                }

              if(check==5)
                {
                  if(MonthH==0 & MonthL==0)
                    {
                      cursor_count=0x89;
                      LCD_command_write(cursor_count);
                      break;
                    }
                  else{check=5;}
                }

              if(check==6)
                {
                  if(HourH>2)
                    {
                      cursor_count=0xC6;
                      LCD_command_write(cursor_count);
                      break;
                    }
                  else{check=6;}
                }

              if(check==6)
                {
                  if(HourH==2 & HourL>3)
                    {
                      cursor_count=0xC7;
                      LCD_command_write(cursor_count);
                      break;
                    }
                  else{check=6;}
                }

              if(check==7)
                {
                  if(MinH>5)
                    {
                      cursor_count=0xC9;
                      LCD_command_write(cursor_count);
                      break;
                    }
                  else{check=7;}
                }

              if(check==8)
                {
                  timeSection:

                    flag=11;
                    LCD_command_write(0x0C);
                    while(1)
                      {
                        /////////Hour H/////////
                        for(HourH=HourH;HourH<3;HourH++)
                          {
                        ////////////// Hour LLLLLLLLLLL/////////////////
                            for(HourL=HourL;HourL<10;HourL++)
                              {
                                ///////// Minute H //////////////////////////
                                for(MinH=MinH;MinH<6;MinH++)
                                  {
                                    //////Minute LLLLLLLLLLLL/////////////////////////
                                    for(MinL=MinL;MinL<10;MinL++)
                                      {
                                      ////////////// Sec H  HHHH//////////////
                                        for(SecH=0;SecH<6;SecH++)
                                          {
                                            ///////////   Sec LLLLLLL//////
```

```
287                                                     for(SecL=0;SecL<10;SecL++)
288                                                       {
289                                                         LCD_command_write(0xCE);
290                                                         LCD_message_write(ascii[SecL]);
291                                                         delay(910);
292                                                           if((HourL==SetHL4B &  MinL==(SetML4B+1) &
    SecH==(SetSH4B+1))&(HourH==SetHH4B &  MinH==SetMH4B & SecL<=SetSH4B))
293                                                             {  enable=0;
294                                                               if(enable==0)
295                                                                 {
296                                                                   for(check=0;check<1;check++)
297                                                                     {
298                                                                       relay_control_signal=enable;
299                                                                       delay(910);
300                                                                       relay_control_signal=1;
301                                                                       enable=1;
302                                                                       SecL++;
303                                                                     }
304                                                                 }
305                                                                 SetML4B++;
306                                                               }
307
308                                                           if((HourL==0 &  MinL==1 & SecH==4)&(HourH==0
    &  MinH==0 & SecL<=1))
309                                                             {  enable=0;
310                                                               if(enable==0)
311                                                                 {
312                                                                   for(check=0;check<1;check++)
313                                                                     {
314                                                                       relay_control_signal=enable;
315                                                                       delay(1000);
316                                                                       relay_control_signal=1;
317                                                                       enable=1;
318                                                                       SecL++;
319                                                                      }
320                                                                 }
321                                                               }
322
323                                                       }
324                                                     //////////   Sec LLLLLLL////////
325                                                     if(flag==11)
326                                                       {
327                                                         SecH++;
328                                                         flag=22;
329                                                       }
330                                                     LCD_command_write(0xCD);
331                                                     LCD_message_write(ascii[SecH]);
332                                                     LCD_command_write(0xCE);
333                                                     SecL=0;
334                                                     LCD_message_write(ascii[SecL]);
335
336                                                     if(flag==33)
337                                                   {
338                                                      MinL--;
339                                                       if(MinH==5)
340                                                         {
341                                                           MinH=0;
342                                                         }else{MinH++;}
343
344                                                    LCD_command_write(0xCB);
345                                                    LCD_message_write(ascii[MinL]);
346                                                      flag=44;
347                                                    }
348                                                    else
349                                                    {
350                                                    LCD_command_write(0xCB);
351                                                    LCD_message_write(ascii[MinL]);
352
353                                                    LCD_command_write(0xCA);
354                                                    LCD_message_write(ascii[MinH]);
355                                                    }
```

```
356
357                                                     if(flag==44)
358                                                     {
359                                                     LCD_command_write(0xCA);
360                                                     LCD_message_write(ascii[MinH]);
361
362                                                     }
363
364
365                                                     if(flag==55)
366                                                        {
367                                                          LCD_command_write(0xCA);
368                                                          LCD_message_write(ascii[MinH]);
369                                                        }
370
371
372                                                     if(MinL==0 & MinH==0 & SecH==0 & SecL==0)
373                                                     {
374                                                         if(HourL==9)
375                                                           {
376                                                             HourL=0;
377                                                             HourH++;
378                                                           } else
379                                                       if(HourH==2 & HourL==3 & MinL==0 & MinH==0 &
    SecH==0 & SecL==0)
380                                                     {
381                                                       HourH=0;
382                                                       HourL=0;
383                                                         LCD_command_write(0xC8);
384                                                         LCD_message_write(ascii[HourL]);
385                                                         LCD_command_write(0xC7);
386                                                         LCD_message_write(ascii[HourH]);
387                                                      }
388                                                     else{HourL++;}
389                                                         LCD_command_write(0xC8);
390                                                         LCD_message_write(ascii[HourL]);
391                                                         LCD_command_write(0xC7);
392                                                         LCD_message_write(ascii[HourH]);
393                                                      }
394                                                    }
395                                                    //////////////   Sec H ////////////////
396                                                  if(MinL==9)
397                                                    {
398                                                      MinL=0;
399                                                      flag=33;
400                                                    }
401                                                }
402                                                ////////////////////  Minute
    LLLLLLLLLLLLLLLL///////////////
403                                              if(MinH==6)
404                                                {
405                                                  MinH=0;
406                                                  flag=55;
407                                                }
408                                              }
409                                                     ///////// Minute H ////////////////////////
410                                           if(HourL==9)
411                                             {
412                                               HourL=0;
413                                             }
414                                           }
415                                        ////////////// Hour LLLLLLLLLLL/////////////////
416                                          if(HourH==3)
417                                           {
418                                            HourH=0;
419                                           }
420                                          }
421                                  ////////////  Hour H /////////////////
422                                  }
423                              }
424                          }
425                  }
```

```
            }
           while(key_value==readkey());
         }
       }
    while(1);
  }

void LCD_Initialization()
 {
     LCD_command_write(0X38);
     LCD_command_write(0X10);
     LCD_command_write(0X0C);
     LCD_command_write(0X06);
     LCD_command_write(0X01);
 }

void LCD_command_write(unsigned char command_value)
 {
     LCD_data= command_value;
     LCD_register_select= control_register;
     LCD_enable=1;
     delay(10);
     LCD_enable=0;
     delay(10);
 }

void LCD_message_write(unsigned char message_charactor)
 {
      LCD_data= message_charactor;
      LCD_register_select= data_register;
      LCD_enable=1;
      delay(10);
      LCD_enable=0;
      delay(10);
 }
```