Title: Interfacing LEDs with 8051

1. Led blinking

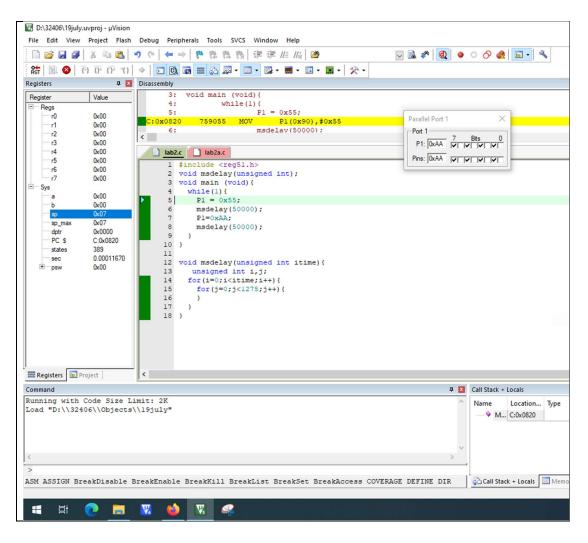
```
#include <reg51.h>
void msdelay(unsigned int);
void main (void){
          while(1){
                    P1 = 0x55;
                    msdelay(50000);
                    P1=0xAA;
                    msdelay(50000);
void msdelay(unsigned int itime){
                   unsigned int i,j;
          for(i=0;i<itime;i++)
                    for(j=0;j<1275;j++)

☑ D:\32406\19july.uvproj - μVision

  File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
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   Disassembly
                                   void main (void) {
    while(1) {
     Regs
                         5: P1 = 0x55;
C:0x0820 759055 MOV P1(0x90), #0x55
6: msdelav(50000);
               0x00
                                                                                 Parallel Port 1
                         €:
                                                                                  Port 1
               0x00
                                                                                  P1: 0x55 7 Bits 0
               0x00
0x00
                            lab2.c lab2a.c
                                                                                  Pins: 0x55
       r5
               0x00
                                 #include <reg51.h>
void msdelay(unsigned int);
       r6
                0x00
                0x00
                               3 void main (void) {
4  while(1) {
5    P1 = 0x55;
                0x00
                                     msdelay(50000);
                                     P1=0xAA;
msdelay(50000);
       sp_max
                0x07
       dptr
               0x0000
       states
                389
               0.00011670
                                 void msdelay(unsigned int itime) {
                                    unsigned int i,j;
                                  for (i=0;i<itime;i++) {
  for (j=0;j<1275;j++) {
  Registers Project

    □ Call Stack + Locals

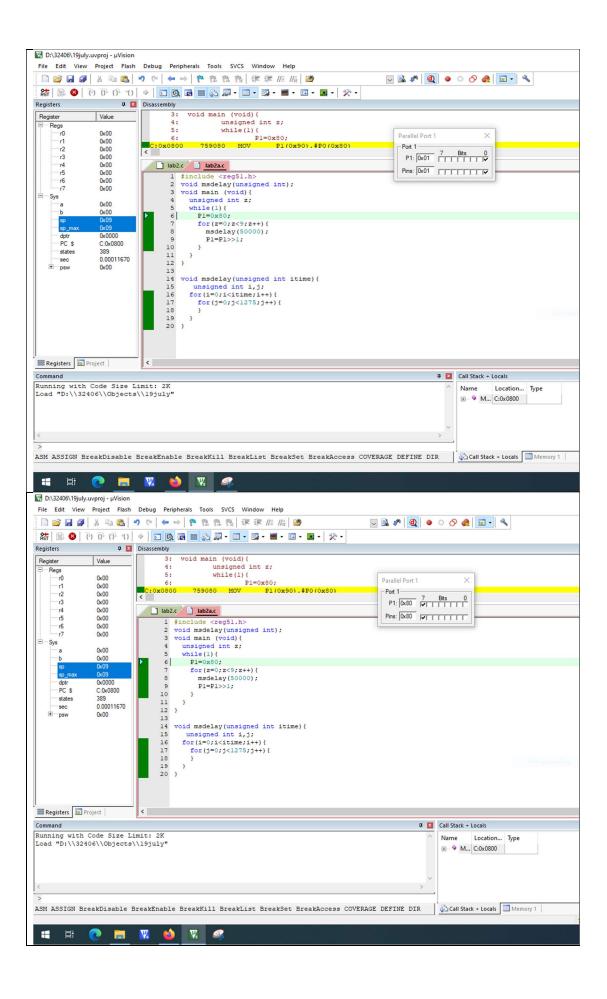
 Running with Code Size Limit: 2K
Load "D:\\32406\\Objects\\19july"
                                                                                                     Location... Type
                                                                                                 ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE DEFINE DIR
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                         \Psi_{4}
                                     ₩,
```



2. Led Chasing

```
#include <reg51.h>
void msdelay(unsigned int);
void main (void) {
    unsigned int z;
    while(1) {
        P1=0x80;
        for(z=0;z<9;z++) {
            msdelay(50000);
            P1=P1>>1;
        }
    }
}

void msdelay(unsigned int itime) {
    unsigned int i,j;
    for(i=0;i<itime;i++) {
        for(j=0;j<1275;j++) {
        }
    }
}</pre>
```



3. Display A to Z Ascii Values

```
#include <reg51.h>
void msdelay(unsigned int);
void main (void){
           unsigned int z;
                      for(z='A';z<='Z';z++)
                                msdelay(5000);
                                P1=z;
void msdelay ( unsigned int itime) {
          unsigned int i,j;
          for(i = 0; i < itime; i++)
                     for(j = 0; j < 1275; j++)
 ☑ D:\32406\19july.uvproj - µVision
  <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>P</u>roject Fl<u>a</u>sh <u>D</u>ebug Peripherals <u>T</u>ools <u>S</u>VCS <u>W</u>indow <u>H</u>elp
   📭 🗵 Disassembly
  Registers
                           C:0x5B00
C:0x5B01
                Value
                                                  NOP
                                         00
                                                                                          Parallel Port 1
                             C:0x5B02
C:0x5B03
                                         00
                                                  NOP
NOP
                 0x00
0x00
                           C:0x5B04
                                                                                            P1: 0x5A 7 Bits 0
                                         00
                                                  NOP
                                                                                           Pins: 0x5A
                              lab2c.c lab2d.c lab2e.c
                                  1 #include <reg51.h>
2 void msdelay(unsigned int);
                                  4 void main (void) {
5 unsigned int z;
                 0×00
                                      unsigned int z;
for(z='A';z<='Z';z++){
                                          msdelay(5000);
                 0x0000
                 C:0x5B00
                                 10 }
       states
                 269.02251200
                                 12 void msdelay ( unsigned int itime) {
13  unsigned int i,j;
14  for(i = 0 ;i < itime ; i++) {
15  for(j = 0 ; j<1275 ; j++) {
                                 16
                                 17 }
  Project Registers
                                                                                                  Д 🗵 Memory 1
 Running with Code Size Limit: 2K
Load "D:\\32406\\Objects\\19july"
                                                                                                        Address:
   ** error 65: access violation at C:0x5B00 : no 'execute/read' permission
  ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE DEFINE DIR — 🗞 Call Stack + Locals 🔲 🗈
        📈 📻 💿 🛱 🔍
```

4. Hex Counter

```
#include <reg51.h>
void msdelay(unsigned int);
void main (void){
           unsigned int z;
                      for(z=0;z<=255;z++)
                                msdelay(100);
                                P1=z;
void msdelay ( unsigned int itime) {
          unsigned int i,j;
          for(i = 0; i < itime; i++)
                     for(j = 0; j < 1275; j++)
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  <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>P</u>roject Fl<u>a</u>sh <u>D</u>ebug Peripherals <u>T</u>ools <u>S</u>VCS <u>W</u>indow <u>H</u>elp
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C:0x0203
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                                                    NOP
                                                                                           Parallel Port 1
                  0x00
                              C:0x0204
                                                    NOP
                                                                                            P1: 0xFF 7 Bits 0
                               lab2c.c
                                                                                            Pins: 0xFF
                                       #include <reg51.h>
                                        void msdelay(unsigned int);
                                   3 ☐ void main (void) {
                                  4    unsigned int z;
5    for (z=0; z<=255; z++) {</pre>
                 0x00
                                             msdelay(1000);
P1=z;
                                 9 | }
                 0x0000
        dptr
       PC $
                 C:0x0200
                  1765896334
       states
                                  11 proid msdelay(unsigned int itime) {
                 529.76895318
                                        unsigned int i,j;
for(i=0;i<itime;i++){
                                  13 |
                                           for(j=0;j<1275;j++){
  Project Registers
 Command
                                                                                                     Running with Code Size Limit: 2K
Load "D:\\32406\\Objects\\19july"
*** error 65: access violation at C:0x0200 : no 'execute/read' permission
                                                                                                           ⊕ • MAIN
                                                                                                       Call Stack + Locals
 ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE DEFINE DIR
         0
```

5. BCD Counter

```
#include <reg51.h>
 void msdelay(unsigned int);
void main (void){
                 unsigned int x,y;
                 for(x=0;x<=9;x++)
                                 for(y=0;y<=9;y++){
                                                msdelay(5000);
                                                P1=(x<<4)|ys;
                 }
void msdelay ( unsigned int itime) {
               unsigned int i,j;
               for(i = 0; i < itime; i++)
                               for(j = 0; j < 1275; j + +){
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                                            C:0x0A01
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                                                                               NOP
                                                                                              P1: 0x99 7 Bits 0
                                                                00
                                                                               NOP
                                            C:0x0A02
        r0
                        0x00
                                            C:0x0A03
                                         C:0x0A03
                                                                                             Pins: 0x99
                        0x00
                                               lab2c.c lab2d.c lab2e.c lab2e_.c
                         0x13
                                                    1 #include <reg51.h>
                                                     2 void msdelay(unsigned int);
                                                    4 void main (void) {
                        0x00
                                                            unsigned int x, y;
                        0x00
                                                    6 for (x=0; x<=9; x++) {
                                                               for(y=0;y<=9;y++){
                                                                  msdelay(5000);
                        0x0000
                                                                   P1=(x<<4)|y;
                        C:0x0A00
        PC S
                                                   10
                        3449005724
        states
                                                   11 }
                         1034.7018206
                                                   12 }
                        0×00
                                                   13
                                                  14 void msdelay ( unsigned int itime) {
15  unsigned int i,j;
16  for(i = 0 ;i < itime ; i++) {</pre>
                                                             for(j = 0 ; j<1275 ; j++){
                                                   18
                                                   19}
  Project | Registers
                                                                                                                                                               A Memory 1
  nning with Code Size Limit: 2K
                                                                                                                                                                         Address:
  ad "D:\\32406\\Objects\\19july"
```