

## Massivlar bilan ishlash

Keil uVision paketida massivlar bilan ishlash ishni ancha soddalashtiradi. Massivlarni e'lon qilish tartibi:

`<ma'lumot_toifasi> <xotira turi> <massiv_nomi[]>=<{massiv qiymati}>;`

```

02
03 unsigned char code table[]={0x7f,0xbf,0xdf,0xef,
04                               0xf7,0xfb,0xfd,0xfe,
05                               0xff,0xff,0x00,0x00,
06                               0x55,0x55,0xaa,0xaa
07                               };
08

```

Misolda berilgan *unsigned char* – ma'lumot toifasi bo'lib, u xotiradan 1 bayt va 0 dan 255 gacha qiymat qabul qiladi.

Data Type	Bits	Bytes	Value Range
bit †	1		0 to 1
signed char	8	1	-128 to +127
unsigned char	8	1	0 to 255
enum	16	2	-32768 to +32767
signed short	16	2	-32768 to +32767
unsigned short	16	2	0 to 65535
signed int	16	2	-32768 to +32767
unsigned int	16	2	0 to 65535
signed long	32	4	-2147483648 to 2147483647
unsigned long	32	4	0 to 4294967295
float	32	4	±1.175494E-38 to ±3.402823E+38
sbit †	1		0 to 1
sfr †	8	1	0 to 255
sfr16 †	16	2	0 to 65535

Xotira turi 8051 toifasidagi mikrokontrollerlarning xotirasidan to'g'ri foydalanish imkoniyatini beradi. Xotira turlari quyidagicha:

- *code* – dastur uchun 64 kbayt ajratiladi;
- *data* – 128 bayt tezlikka ega ichki xotira turi;
- *idata* – 256 baytli ichki to'liq xotira turi;
- *bdata* – 16 bitli ichki xotira turi;
- *xdata* – 64 kbaytli tashqi xotira turi;
- *pdata* – 256 baytli tashqi xotira turi.

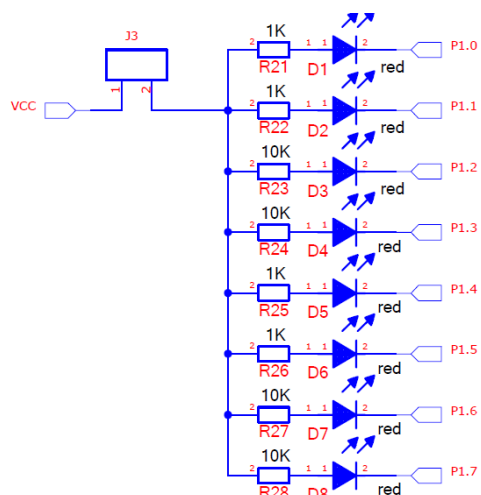
Ichki xotira turi tashqi xotira turiga nisbatan tez ishlaydi. Shunish uchun ham asosan ichki xotira turi ishlatiladi.

*table[]* – massiv nomi bo'lib, u doimi “[ ]” belgisi bilan ishlatilishi shart.

- *0x7f* = *0111 1111* –  $P1^7=0$ ;
- *0xbf* = *1011 1111* –  $P1^6=0$ ;
- *0xdf* = *1101 1111* –  $P1^5=0$ ;
- *0xef* = *1110 1111* –  $P1^4=0$ ;
- *0xf7* = *1111 0111* –  $P1^3=0$ ;
- *0xfb* = *1111 1011* –  $P1^2=0$ ;
- *0xfd* = *1111 1101* –  $P1^1=0$ ;
- *0xfe* = *1111 1110* –  $P1^0=0$ ;
- *0xff* = *1111 1111*;
- *0x00* = *0000 0000*;
- *0x55* = *0101 0101*;
- *0xaa* = *1010 1010*.

Massiv qiymatlarining ikkilik sanoq tizimidagi ko'rinishi

Quyidagi sxema asosida P1 portga ulangan D1,...D8 svetodioldlarni massiv qiymatlari asosida tashkil etish ko'rib chiqiladi. Loyiha **5\_lab** deb nomlandi.



Yaratildan dasturiy faylga **C dasturlash tili** asosida buyruqlar ketma-ketligi yoziladi.  
**#include** – ushbu preprocessor derektivasi dasturdagi fayllarga bog'lanishni anglatadi.  
**void Delay** – o'zlash funksiyasi.  
**void main(void)** – dasturning asosiy tanasi.  
**unsigned char i** – local o'zgaruvchini e'lon qilish.  
**while(1)** – doimiy silk.  
**for(i=0;i<16;i++)**  
 {  
     **P1=table[i];**  
     **Delay(30000);**  
 } – 1 dan 8 gacha bo'lgan svetodioldlar **P1=table[i]** qiymati asosida 30000 millisekund oraligida aktivlashadi.  
**Delay(30000);** - barcha svetodioldlar 30000 milli sekund davomida o'chishi.

```

5_lab.c
01 #include<reg52.h>
02 unsigned char code table[]={0x7f,0xbf,
03     0xdf,0xef,0xf7,0xfb,
04     0xfd,0xfe,0xff,0xff,
05     0x00,0x00,0x55,0x55,
06     0xaa,0xaa};
07 void Delay(unsigned int t)
08 {
09     while(--t);
10 }
11 void main (void)
12 {
13     unsigned char i;
14     while (1)
15     {
16         for(i=0;i<16;i++)
17         {
18             P1=table[i];
19             Delay(30000);
20         }
21     }
22 }
23
  
```



Natija: massivli animasiya