

Microprocess Lab – Experiment 8

Addition

System Clock (MHz) 12.0 1 Update Freq.

SBUF

R/o	W/o	TH0	TL0	R7	0x00	B	0x00
0x00	0x00	0x00	0x00	R6	0x00	ACC	0x08
RxD	TxD			R5	0x00	PSW	0x01
1	1	TMOD	0x00	R4	0x00	IP	0x00
SCON	0x00	TCON	0x00	R3	0x00	IE	0x00
				R2	0x08	PCON	0x00
pins	bits	TH1	TL1	R1	0x00	DPH	0x00
0xFF	0xFF	P3	0x00	0x00		DPL	0x00
0xFF	0xFF	P2				SP	0x07
0xFF	0xFF	P1					
0xFF	0xFF	P0					

PC 0x008A 8051

Modify RAM

Data Memory

addr	0x00	0x00	value
0	00	00	00
1	00	00	00
2	00	00	00
3	00	00	00
4	00	00	00
5	00	00	00
6	00	00	00
7	00	00	00
8	00	00	00
9	00	00	00
A	00	00	00
B	00	00	00
C	00	00	00
D	00	00	00
E	00	00	00
F	00	00	00

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RST Step Run New Load Save Copy Paste X

Time: 130us - Instructions: 129

```
0000| CLR C
0001| MOV A, #06
0003| ADD A, #02
0005| MOV R2, A
0006| SJMP 6
```

Division

System Clock (MHz) 12.0 1 Update Freq.

SBUF

R/o	W/o	TH0	TL0	R7	0x00	B	0x00
0x00	0x00	0x00	0x00	R6	0x00	ACC	0x02
RxD	TxD			R5	0x00	PSW	0x01
1	1	TMOD	0x00	R4	0x00	IP	0x00
SCON	0x00	TCON	0x00	R3	0x02	IE	0x00
				R2	0x08	PCON	0x00
pins	bits	TH1	TL1	R1	0x00	DPH	0x00
0xFF	0xFF	P3	0x00	0x00		DPL	0x00
0xFF	0xFF	P2				SP	0x07
0xFF	0xFF	P1					
0xFF	0xFF	P0					

PC 0x0076 8051

Modify RAM

Data Memory

addr	0x00	0x00	value
0	00	00	00
1	00	00	00
2	00	00	00
3	00	00	00
4	00	00	00
5	00	00	00
6	00	00	00
7	00	00	00
8	00	00	00
9	00	00	00
A	00	00	00
B	00	00	00
C	00	00	00
D	00	00	00
E	00	00	00
F	00	00	00

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RST Step Run New Load Save Copy Paste X

Time: 113us - Instructions: 108

```
0000| CLR C
0001| MOV A, #04
0003| MOV B, #02
0006| DIV AB
0007| MOV R3, A
0008| SJMP 6
```

Subtraction

System Clock (MHz) 12.0
100 Update Freq.

R/O W/O

0x00 0x00

RXD TXD

1 1

SCON

0x00

TH0 TL0

0x00 0x00

TMOD

0x00

TCON

0x00

pins bits

0xFF 0xFF P3

0xFF 0xFF P2

0xFF 0xFF P1

0xFF 0xFF P0

TH1 TL1

0x00 0x00

PC

0x0A5C

PSW

0 0 0 0 0 0 0 1

R7

0x00

R6

0x00

R5

0x00

R4

0x00

R3

0x02

R2

0x04

R1

0x00

R0

0x00

B

0x00

ACC

0x04

PSW

0x01

IP

0x00

IE

0x00

PCON

0x00

DPH

0x00

DPL

0x00

SP

0x07

Modify RAM

addr 0x00 0x00 value

Data Memory

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	00	00	04	02	00	00	00	00	00	00	00	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

RST Step Run New Load Save Copy Paste

Time: 2ms 645us - Instructions: 2644

```

0000| CLR C
0001| MOV A, #08
0003| SUBB A, #04
0005| MOV R2, A
0006| SJMP 5

```

Multiplication

System Clock (MHz) 12.0
100 Update Freq.

R/O W/O

0x00 0x00

RXD TXD

1 1

SCON

0x00

TH0 TL0

0x00 0x00

TMOD

0x00

TCON

0x00

pins bits

0xFF 0xFF P3

0xFF 0xFF P2

0xFF 0xFF P1

0xFF 0xFF P0

TH1 TL1

0x00 0x00

PC

0x03F4

PSW

0 0 0 0 0 0 0 1

R7

0x00

R6

0x00

R5

0x00

R4

0x00

R3

0x02

R2

0x08

R1

0x00

R0

0x00

B

0x00

ACC

0x08

PSW

0x01

IP

0x00

IE

0x00

PCON

0x00

DPH

0x00

DPL

0x00

SP

0x07

Modify RAM

addr 0x00 0x00 value

Data Memory

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	00	00	08	02	00	00	00	00	00	00	00	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

RST Step Run New Load Save Copy Paste

Time: 1ms 5us - Instructions: 1000

```

0000| CLR C
0001| MOV A, #04
0003| MOV B, #02
0006| MUL AB
0007| MOV R2, A
0008| SJMP 8

```