

浙江大学实验报告

专业：电气工程及其自动化

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地点：紫金港东三 406

课程名称：微机原理与应用综合实验 指导老师：胡斯登 成绩：_____

实验名称：单片机指令系统 BCD 控制

一、实验代码

1. 30H 与 31H 中存放 4 位 BCD 码数字，编写程序将数字倒序排列。

ORG 0000H

SJMP START

ORG 0030H

START:

MOV A,30H

SWAP A

MOV R0,A

MOV A,31H

SWAP A

MOV 30H,A

MOV 31H,R0

SJMP \$

2. 在 RAM31 单元存放一组 8 位带符号数，字节个数放在 30H 中，请编写程序统计出其中正数，负数以及 0 的数目，结果存放在 41H，42H 以及 43H 中。

ORG 0000H

SJMP START

ORG 0030H

START:

MOV A,30H

MOV R1,#31H ;address

LOOP:

CJNE @R1,#10000000B,JUG

INC 42H ;10000000B=-128

INC R1

DEC A

JNZ LOOP

SJMP \$

JUG:

JNC LOOP_

JC LOOP0_a

RET

```

LOOP0_a:
CJNE @R1,#00000000B,LOOP_a
INC 43H
INC R1
DEC A
JNZ LOOP
SJMP $
RET

```

```

LOOP_a:
INC 41H
INC R1
DEC A
JNZ LOOP
SJMP $
RET

```

```

LOOP_:
INC 42H
INC R1
DEC A
JNZ LOOP
SJMP $
RET

```

3. 模拟下列逻辑运算编写程序并将运算结果转换为显示码后进行显示。

设:A=63H、B=82H、C=0C5H、D=36H,

$$Y = \overline{A \oplus B \cdot \overline{C} \cdot D} + A$$

```

ORG 0000H
SJMP START
ORG 0030H

```

```

START:
MOV 30H,#063H      ;A
MOV 31H,#082H      ;B
MOV 32H,#0C5H      ;C
MOV 33H,#036H      ;D
MOV A,30H
XRL 31H,A          ;覆盖 B
MOV A,32H
CPL A              ;C 反
ANL A,31H
CPL A

```

```
MOV 31H,A
MOV A,30H
ORL A,33H
CPL A
ANL A,31H
MOV 40H,A
```

SJMP \$

二、实验结果

1.输入 1:

00	00	00	00	00	00	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	13	23	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

地址: 0032H

XDATA	CODE	DATA
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输出 1:

00	31	00	00	00	00	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	32	31	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

地址: 0030H

XDATA	CODE	DATA
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输入 2:

00	31	00	00	00	00	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	01	02	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

地址: 0031H

XDATA	CODE	DATA
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输出 2:

00	10	00	00	00	00	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	20	10	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	...

地址: 0030H

XDATA	CODE	DATA
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2. 输入 1:

00	10	00	00	00	00	00	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	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	06	01	A1	FF	00	24	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	00
50	00	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	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

地址: 0060H

XDATA	CODE	DATA
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输出 1: 正数 2 个, 负数 2 个, 零 2 个。

[illegible]

输入 2:

XDATA CODE	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	00	00	00	00	00	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	09	01	A1	FF	00	24	00	80	79	DF	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

地址: 0043H

XDATA	CODE	DATA

