

微机原理第三次作业实验报告

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Task1:

代码：

Line	Code	Line	Code
01	DATA SEGMENT	34	COUNT HL PROC
02	X DB 51H, 3AH, 95H, 8DH, 90H, 0A7H, 0C1H, 77H, 24H, 0B1H	35	PUSH AX
03	HIGH_COUNT DB 0	36	PUSH CX
04	LOW_COUNT DB 0	37	XOR AH, AH
05	DATA ENDS	38	XOR BH, BH
06		39	MOV AL, [SI]
07	STACK SEGMENT	40	MOV CL, 8
08	DW 20H DUP(0)	41	
09	STACK ENDS	42	LOOP1:
10		43	TEST AL, 80H
11	CODE SEGMENT	44	JZ LOOP3
12	ASSUME DS:DATA, CS:CODE	45	
13		46	LOOP2:
14	START:	47	INC AH
15	MOV AX, DATA	48	JMP LOOP4
16	MOV DS, AX	49	
17	XOR AX, AX	50	LOOP3:
18	MOV CX, 10	51	INC BH
19	LEA SI, X	52	
20		53	LOOP4:
21	COUNT:	54	SHL AL, 1
22	CALL COUNT_HL	55	LOOP LOOP1
23	ADD AH, [HIGH_COUNT]	56	
24	ADD AL, [LOW_COUNT]	57	LOOP5:
25		58	MOV [HIGH_COUNT], AH
26	INC SI	59	MOV [LOW_COUNT], BH
27	LOOP COUNT	60	POP CX
28	MOV [3000H], AH	61	POP AX
29	MOV [3100H], AL	62	RET
30		63	
31	MOV AH, 4CH	64	COUNT_HL ENDP
32	INT 21H	65	CODE ENDS
33		66	END START

结果：

The screenshot shows the Windows Task Manager Performance tab with the 'Memory' section selected. The 'Used memory' bar indicates 3000 MB used out of 8192 MB total. Below the bar, a table displays memory usage statistics for various system components.

Component	Private Bytes	Paged Pool Bytes	Non-paged Pool Bytes	Free Space	Committed Space	Available Space	Standby Space	Cache Space	System Space	Free Space	Committed Space	Available Space	Standby Space	Cache Space	System Space
0710:3000	25	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00
0710:3010	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00
0710:3020	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00
0710:3030	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00
0710:3040	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00
0710:3050	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00
0710:3060	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00
0710:3070	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00

高电平的数量和

[illegible]

低电平的红个数和

Task2:

代码:

```
01 DATA SEGMENT
02 X DB 51H, 3AH, 95H, 8DH, 90H, 0A7H, 0C1H, 77H, 24H, 0B1H
03 DATA ENDS
04
05 STACK SEGMENT
06 DW 20H DUP (0)
07 STACK ENDS
08
09 CODE SEGMENT
10 ASSUME DS:DATA, CS:CODE
11
12 START:
13 MOV AX, DATA
14 MOV DS, AX
15 CALL BUBBLE_SORT
16 MOV CL, 9
17 MOV SI, OFFSET X
18 MOV DI, 3000H
19 MOV CX, 10
20
21 COPY_SORT:
22 MOV AL, [SI]
23 MOV [DI], AL
24
25 INC SI
26 INC DI
27 LOOP COPY_SORT
28
29 MOV AH, 4CH
30 INT 21H
31
32 BUBBLE_SORT PROC
33 PUSH CX
34 PUSH SI
35 PUSH DI
36
37 MOV DH, 9
38
39 LOOP1:
40 MOV SI, OFFSET X
41 MOV CL, 9
42
43 LOOP2:
44 MOV AL, [SI]
45 MOV DL, [SI+1]
46 CMP AL, DL
47 JBE LOOP3
48
49 MOV BL, AL
50 MOV AL, DL
51 MOV DL, BL
52 MOV [SI], AL
53 MOV [SI+1], DL
54
55 LOOP3:
56 INC SI
57 LOOP LOOP2
58
59 DEC DH
60 JNZ LOOP1
61
62 POP CX
63 POP SI
64 POP DI
65 RET
66
67 BUBBLE_SORT ENDP
68 CODE ENDS
69 END START
```

结果:

Address	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	ASCII
0710:0000	51	3A	95	8D	90	A7	C1	77-24	B1	00	00	00	00	00	00	Q:?????w\$?.....
0710:0010	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:0020	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:0030	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:0040	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:0050	B8	10	07	8E	D8	E8	17	00-B1	09	BE	00	00	BF	00	30	???.???.???.???.???
0710:0060	B9	0A	00	8A	04	88	05	46-47	E2	F8	B4	4C	CD	21	51	?.??.?||FG???L?!!
0710:0070	56	57	B6	09	BF	00	00	B1-09	8D	0A	8D	5A	01	3D	??	UU? ? ? 24?T??

原数据

Address	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	ASCII
0710:3000	24	3A	51	77	8D	90	95	A7-B1	C1	00	00	00	00	00	00	\$:Qw??????......
0710:3010	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:3020	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:3030	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:3040	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:3050	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:3060	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....
0710:3070	00	00	00	00	00	00	00	00-00	00	00	00	00	00	00	00	.....

排序后数据

Task3:

代码:

```
01 DATA SEGMENT
02 Y DB 3000H DUP(0)
03 X DB 56H, 40H, 50H, 52H, 64H, 47H, 51H, 5BH, 4FH, 61H
04 RESULT DB 10 DUP(0)
05 DATA ENDS
06
07 STACK SEGMENT
08 DW 20H DUP(0)
09 STACK ENDS
10
11 CODE SEGMENT
12 ASSUME DS:DATA, CS:CODE
13
14 START:
15     MOV AX, DATA
16     MOV DS, AX
17     MOV CX, 10
18     CALL SORT_GRADE
19
20     MOV SI, OFFSET RESULT
21     MOV DI, 3100H
22     MOV CX, 10
23
24 COPY_RESULT:
25     MOV AL, [SI]
26     MOV [DI], AL
27     INC SI
28     INC DI
29     LOOP COPY_RESULT
30
31     MOV AH, 4CH
32
33 INT 21H
34
35 SORT_GRADE PROC
36     PUSH CX
37     MOV CX, 10
38     MOV DI, 0
39
40 LOOP1:
41     MOV AL, 0
42     MOV AH, [3000H+DI]
43     MOV SI, OFFSET X
44     MOV DL, 10
45
46 LOOP2:
47     CMP [SI], AH
48     JB LOOP3
49     INC AL
50
51 LOOP3:
52     INC SI
53     DEC DL
54     JNZ LOOP2
55     MOV [RESULT+DI], AL
56     INC DI
57     LOOP LOOP1
58     POP CX
59     RET
60
61 SORT_GRADE ENDP
62 CODE ENDS
63 END START
```

结果:

Address	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	ASCII
0710:3000	56	40	50	52	64	47	51	5B	4F	61	05	09	03	06	01	0A
0710:3010	07	04	08	02	00	00	00	00	00	00	00	00	00	00	00	00
0710:3020	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3040	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3050	00	00	00	00	00	00	00	00	00	00	20	00	16	0A	06	02
0710:3060	B8	10	07	8E	D8	B9	0A	00	E8	15	00	BE	0A	30	BF	00
0710:3070	31	B9	0A	00	80	0A	88	05	4E	42	F2	F8	B4	4C	CD	21

原数据

Address	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	Hex	ASCII
0710:3100	05	09	03	06	01	0A	07	04	08	02	00	00	00	00	00	00
0710:3110	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3120	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3130	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3140	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3150	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3160	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0710:3170	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

排序后数据