

TTTT降序排序前水印位置

```
-d ds:0
078A:0000 10 00 C8 00 2C 01 90 01-0A 00 14 00 00 00 01 00 .....
078A:0010 08 00 41 00 28 00 42 00-21 33 3C 00 FF FF 02 00 ..A.(.B.!3<....
078A:0020 03 00 4D 79 20 6E 61 6D-65 20 69 73 20 32 31 33 ..My name is 213
078A:0030 37 33 32 32 31 20 44 65-6E 67 20 54 61 6F 24 00 73221 Deng Tao$.
078A:0040 30 00 20 78 56 34 12 00-00 00 00 00 00 00 00 00 0. xU4.....
078A:0050 B8 6A 07 8E D0 BC 00 02-B8 8A 07 8E D8 EB 30 90 .j.....0.
078A:0060 C5 36 3F 00 C4 3E 43 00-EB 24 EB 22 90 EB 1F 90 .6?...>C..$. "....
078A:0070 90 90 FF E3 FF E3 FF 27-FF 27 FF 2F FF 2E 3F 00 .....'. ' /...?.

-e ds:2
078A:0002 C8.17 00.06 2C.21 01.32

-d ds:0
078A:0000 10 00 17 06 21 32 90 01-0A 00 14 00 00 00 01 00 ....!2.....
078A:0010 08 00 41 00 28 00 42 00-21 33 3C 00 FF FF 02 00 ..A.(.B.!3<....
078A:0020 03 00 4D 79 20 6E 61 6D-65 20 69 73 20 32 31 33 ..My name is 213
078A:0030 37 33 32 32 31 20 44 65-6E 67 20 54 61 6F 24 00 73221 Deng Tao$.
078A:0040 30 00 20 78 56 34 12 00-00 00 00 00 00 00 00 00 0. xU4.....
078A:0050 B8 6A 07 8E D0 BC 00 02-B8 8A 07 8E D8 EB 30 90 .j.....0.
078A:0060 C5 36 3F 00 C4 3E 43 00-EB 24 EB 22 90 EB 1F 90 .6?...>C..$. "....
078A:0070 90 90 FF E3 FF E3 FF 27-FF 27 FF 2F FF 2E 3F 00 .....'. ' /...?.
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将排序前表中的200(00C8H)和300(012CH)修改为水印0617H(小班号后四位)和3221H(学号后四位)

```
-a cs:0051
078F:0051 JAE 005B
078F:0053
-u cs:003f
078F:003F 90 NOP
078F:0040 BB0100 MOV BX,0001
078F:0043 8B0E0000 MOV CX,[0000]
078F:0047 49 DEC CX
078F:0048 8D360200 LEA SI,[0002]
078F:004C 8B04 MOV AX,[SI]
078F:004E 3B4402 CMP AX,[SI+02]
078F:0051 7308 JNB 005B
078F:0053 874402 XCHG AX,[SI+02]
078F:0056 8904 MOV [SI],AX
078F:0058 BB0000 MOV BX,0000
078F:005B 83C602 ADD SI,+02
078F:005E E2EC LOOP 004C
```

使用指令a cs:0051可以修改JE处代码，将其修改为JAE，但在汇编优化时将JAE自动转换为了JNB，效果相同

运行到排序结束后，显示数据区

```
-g 0067
AX=0001 BX=0001 CX=0000 DX=0000 SP=0200 BP=0000 SI=0020 DI=0000
DS=078A ES=075A SS=076A CS=078F IP=0067 NU UP EI PL ZR NA PE NC
078F:0067 BA2200 MOV DX,0022
-d ds:0
078A:0000 10 00 FF FF 21 33 21 32-17 06 90 01 42 00 41 00 ....!3!2....B.A.
078A:0010 3C 00 28 00 14 00 0A 00-08 00 03 00 02 00 01 00 <.(.....
078A:0020 00 00 4D 79 20 6E 61 6D-65 20 69 73 20 32 31 33 ..My name is 213
078A:0030 37 33 32 32 31 20 44 65-6E 67 20 54 61 6F 24 00 73221 Deng Tao$.
078A:0040 30 00 20 78 56 34 12 00-00 00 00 00 00 00 00 00 0. xU4.....
078A:0050 B8 6A 07 8E D0 BC 00 02-B8 8A 07 8E D8 EB 30 90 .j.....0.
078A:0060 C5 36 3F 00 C4 3E 43 00-EB 24 EB 22 90 EB 1F 90 .6?...>C..$. "....
078A:0070 90 90 FF E3 FF E3 FF 27-FF 27 FF 2F FF 2E 3F 00 .....'. ' /...?.
```

可以看到降序排序后，水印位置发生了变化，前四个字分别为FFFFH,3321H,3221H,0617H