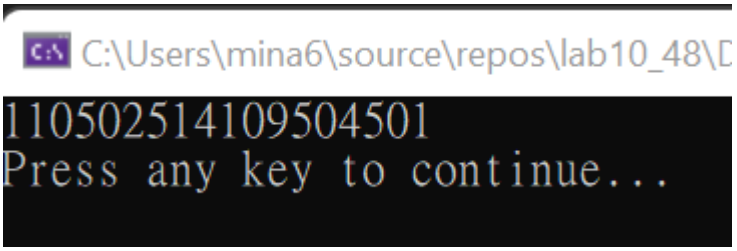
報告標題: **lab10**, 組別: **48**, 姓名學號: 曾千芸**109504501** 賈子悅**110502514**

- Screenshots of the code:

```
INCLUDE Irvine32.inc

Str_copyN PROTO,
    source:PTR BYTE,      ; source string address
    target:PTR BYTE,      ; target string address
    maxChars:DWORD        ; maximum number of character to copy

.data
string_1 BYTE "109504501",0
string_2 BYTE "110502514",0

.code
main PROC
    INVOKE Str_copyN, OFFSET string_1, OFFSET string_2 + 9, (SIZEOF string_2) - 1
    mov edx, OFFSET string_2
    call WriteString          ; display it
    call Crlf                 ; output a CR/LF
    call WaitMsg              ; "Press any key........"
    exit
main ENDP

Str_copyN PROC USES eax ecx esi edi,
    source:PTR BYTE,          ; source string address
    target:PTR BYTE,          ; target string address
    maxChars:DWORD            ; maximum number of character to copy
    mov ecx, maxChars         ; set counter
    mov esi, source           ; set the address of source to esi
    mov edi, target           ; set the address of target to edi
    cld                       ; direction = forward
    rep movsb                 ; copy the string
    mov byte ptr [edi], 0     ; insert a null byte
    ret
Str_copyN ENDP

END main
```

- Screenshots of the result:



- Explanation:

First, we store both of our student ID number to Str_copyN, source=109504501 and target=110502514 respectively.
Second, the reason why max Chars=(sizeof string_2)-1 is because there is a ‘1’, therefore, we have to subtract one.

Third, set macChar to ecx, set the address of source to esi, set the address of target to edi.
Lastly, repeat nine times to make each value in esi store in the back of edi. In other words, move 109504501 to the back of 110502514. Finally, print out 110502514109504501.

- Thoughts about the lab:

To be honest, lab10 is quite similar to homework3, so we both have a clear coding steps in our mind during the lab. The highlight of lab10 is ‘movsb’ instruction, it can avoid wasting time and make our code looks clear and simple. In conclusion, the whole process of lab10 is quite smooth.