X86 Assembly Language – Programming Exercise

Assignment 02 (Ch06)

Practice in Chapter 6

- Conditional JUMP
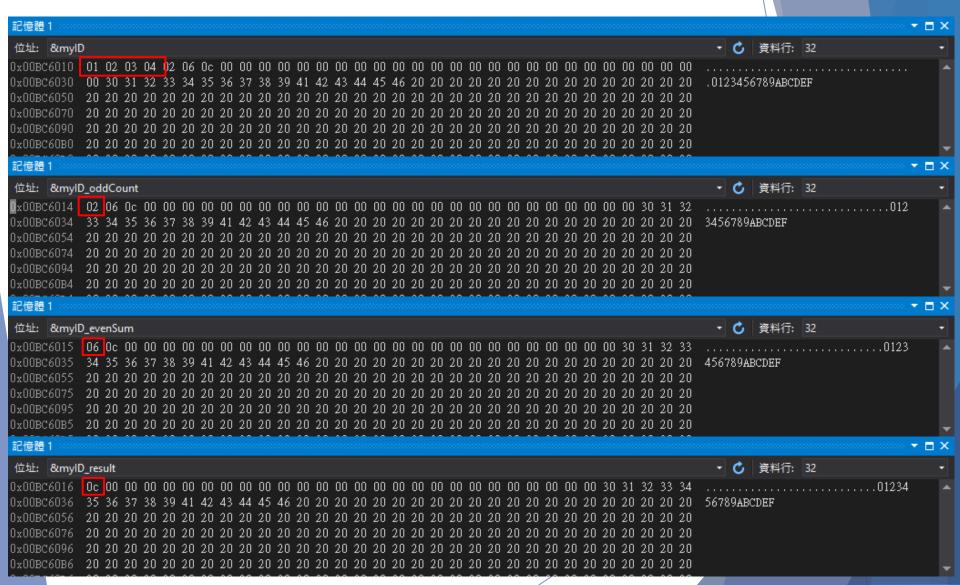- Carry Flag

Practice Exercise

Analyze data stored in myID. The count of odd numbers is stored in myID_oddCount. Sum up the even number in myID and store the value in myID_evenSum using conditional jump. Multiply myID_oddCount and myID_evenSum and store in myID_result.

```
.data
myID BYTE ,,,,,          ; student ID
sizeID = ($-myID)           ; length of myID
myID_oddCount _____ ?
myID_evenSum _____ ?
myID_result _____ ?
.code
main PROC
        ; do something here
    exit
main ENDP
END main
```

Case Example

- myID = 1234
- Count of odd numbers: 2 (1,3)
- Sum of even numbers: 6 (2+4)
- Count of odd * sum of even = 2 * 6 = 12

Program Output Example

Optional revisions

▶ Let user input myID and show the result on command window.

  ▶ Version 1: let user input each digit one at a time and end up input section while user inputs -1

  ▶ Version 2: let user input all digits and using a divider to obtain each digit

Submission Format

▶ Turn in your report **in group**

▶ Observe the changes of registers and memory while executing. **Screenshot when needed.**

▶ Pack (archive) the following files

  ▶ xxxx.asm

  ▶ Report (file format: .doc/.docx/.pdf)

    ▶ Follow the given programming exercise report format

    ▶ Please include screenshots, the source code with comments, and your feedback about the assignment in one file.

▶ Upload to Tronclass