**Assembly Programming HW3**

Assembly Programming (CSE3030)

(Spring 2020)

1st June, 2020

Instructor: Prof. Youngjae Kim

Variable length code is a method used to compress data. Before write a program, Initialize the following data in the data segment.

|  |
| --- |
| **CODE\_A BYTE ‘1’ CODE\_B BYTE ‘01’ CODE\_C BYTE ‘000’ CODE\_D BYTE ‘0011’ CODE\_E BYTE ‘0010’** |

The above data means that the alphabet 'A' is represented as ‘1’, 'B' is ‘01’, 'C' is ‘000’, etc. In other words, the letters A, B, C, D, and E are compressed by expressing them as binary numbers of different lengths.

For example, Let’s assume that there is data as follows.:

EX\_DATA DWORD A0E82095h

The above data can be written in binary as

10100000 11101000 00100000 10010101

**And it can be separated as** 1 01 000 0011 1 01 000 0010 000 01 0010 1 01, **which means that the binary number is a compressed version of “ABCDABCECBEAB”.**

Assume that the compressed data are initialized in the *hw3.inc* file as follows:

|  |
| --- |
| CODE01  DWORD A0E82095h  CODE02  DWORD 33333333h  CODE03  DWORD FF224103h  CODE04  DWORD 32323232h  CODE05  DWORD 51515161h |

**<example of hw3.inc file>**

**Make a program that decompresses the data declared in hw3.inc files and prints them. The value of data declared in hw3.inc file will be changed when grading.**

**The output of the program for the above data is as follows.**

|  |
| --- |
| **ABCDABCECBEAB**  **DDDDDDDD**  **AAAAAAAAEEBCECD**  **DEDEDEDE**  **BBCABBCABBCABACB** |

**Submission:**

* Submission Due Date: 6/7 (Sun) 11:59 PM (Late : -10% per day, up to 3days)
* You need to submit **one .asm code files without compression**.
* Name the .asm file with the last 6-digits of your student id. (e.g. **201234.asm**)
* ***You don’t need to compress source code files since there is only one file to summit.***
* Please submit your assignment under **Assignment3** in Assignment menu in Cyber Campus.

**Grading Policy:**

* If there is an assemble error, you will get 0 point.
* You will get minus one (-1) point for each wrong file name.
* Your program will be tested with different data.
* **Don’t use screen clear function such as Clrscr, (if use, -50%)**