

CS 271 Computer Architecture and Assembly Language

Self-Check for Lecture #4

Solutions

1. True / False:

- TRUE** A MASM program must have a procedure named "main".
- TRUE** `END main` is a directive that tells the operating system where to begin execution of the program.

2. What's wrong with the following data segment?

```
.data
x_value    DWORD    5
7Eleven    BYTE     "My job",0
X_VALUE    DWORD    500
Age ;user's age;    DWORD    ?
```

`x_value` **and** `X_VALUE` **are the same variable, since MASM is not case-sensitive.**
`7Eleven` **is an invalid variable name (can't start with a digit)**
`Age ;user's age; DWORD ?` **The first semi-colon makes all of the rest of the line into a comment.**

3. The following data segment starts at memory address 1400. What is the address of each variable?

```
.data
myName     BYTE     "Elmer Fudd",0 ;Address = 1400, size = 11
yourName    BYTE     30 DUP(0)      ;Address = 1400 + 11 = 1411, size = 30
myAge      DWORD    45              ;Address = 1411+ 30 = 1441, size = 4
yourAge    DWORD    ?              ;Address = 1441+ 4 = 1445, size = 4
myScore    DWORD    ?              ;Address = 1445+ 4 = 1449, size = 4
yourScore  DWORD    ?              ;Address = 1449+ 4 = 1453, size = 4
```