

CS 271 Computer Architecture and Assembly Language

Self-Check for Lecture#3

Solutions are posted

1. 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    ?
```

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

```
.data
myName     BYTE     "Elmer Fudd",0
yourName   BYTE     30 DUP(0)
myAge      DWORD    45
yourAge    DWORD    ?
myScore    DWORD    ?
yourScore  DWORD    ?
```

3. Why is it a good idea to implement a program's output first?

4. What's the result of the following code fragment?!E., what registers are changed?

```
mov  eax,100
cdq
mov  ebx,13
div  ebx
```

Given the following constant definition and data segment:

```
MY_CREDITS = 12
.data
x    DWORD    12
y    DWORD    13
z    WORD     25
```

5. What's wrong with the following code segment statements?

```
mov  ebx, z
mov  y, x
mov  ebx, MY_CREDITS
mov  MY_CREDITS, ebx
```

Given the following data segment:

```
.data
intro_1      BYTE    "Welcome, "
username     BYTE    "Fred."
intro_2      BYTE    "What's up?"
count        DWORD   0
```

6. What is displayed by the following code segment statements?

```
mov     edx, OFFSET intro_1
CALL   WriteString
CALL   CrLf
mov     edx, OFFSET username
CALL   WriteString
CALL   CrLf
mov     edx, OFFSET intro_2
CALL   WriteString
CALL   CrLf
```

