Program Assignment #3
Summer 2013
CSC 3210
Due Thursday, July 11th at 11:59 pm (late deadline – July 18th at 11:59 pm)

Write an efficient program to perform various logical functions on a range of numbers. At the start of your program define a constant xval to have a certain value. The TA will change this to test your program, so make sure not to code based upon any particular value. Your program should do the following for the range of numbers from xval to (xval + 4). The value of xval can be between 0 and 4096.

Basically the requirements for each of the four values is to:

1. Print out a statement to provide decimal value
2. Print out a statement to provide hexadecimal value
3. Print out a statement to provide binary value (without leading 0's)
4. Swap bytes 0 and 1 of xval and print out result in hexadecimal
5. Determine if xval is divisible by 4 (without using any arithmetic instructions)
6. Complement the first two bytes of xval and print result in hexadecimal

Note: For the step of determining if the value is divisible by 4, you should only use logical instructions and not arithmetic instructions to accomplish this.

Suppose xval is given an initial value of 22. You should display the following:

xval = 22 decimal
xval = 0x16 hexidecimal
xval = 10110 binary
swapping bytes 0 and 1 results in 0x1600
Is xval divisible by 4? No
Complementing the first two bytes of xval results in 0xffe9

xval = 23 decimal
xval = 0x17 hexidecimal
xval = 10111 binary
swapping bytes 0 and 1 results in 0x1700
Is xval divisible by 4? No
Complementing the first two bytes of xval results in 0xffe8

xval = 24 decimal
xval = 0x18 hexidecimal
xval = 11000 binary
swapping bytes 0 and 1 results in 0x1800
Is xval divisible by 4? Yes
Complementing the first two bytes of xval results in 0xffe7

xval = 25 decimal
xval = 0x19 hexidecimal
xval = 11001 binary
swapping bytes 0 and 1 results in 0x1900
Is xval divisible by 4? No
Complementing the first two bytes of xval results in 0xffe6