# CSC 2010 – Fall 16
# Homework #3
# Due 09/26/2016 @11.59 pm

***Submission Requirements***

*You must turn work at the SPECIFIED TIME so you can receive credit for Homework!*

*Homework **must be submitted on desire2learn** by the due date and time. Late homework will be subject to a penalty, as stated in the course grading policy. No email or hard copies of homework will be accepted.*

*You may discuss the assignments with other students in the class, but (as stated in the academic honesty policy) your written answers **must be your own**, and you must list the names of other students you discussed the assignment with.*

**How to Submit**

Log into D2L (desire2learn.gsu.edu), select the class to view its drop box folders, select the correct folder for the given assignment and upload the file there.

You will get a confirmation email. Please save the conformation email in the event something goes wrong, for example work was submitted to the wrong folder etc…,

1. **You can print homework do it by hand then**
2. **Upload work to D2L download**
3. **use this free phone app**

4. **CamScanner - Phone PDF Creator**

**Two's Complement**

1. As it pertains to representing integers use a total of 7 bits to represent each number. Please demonstrate how to represent the integer values of 23 and -23 in signed magnitude and using 2's complement integers.

2. What are the 4-bit patterns used to represent each of the characters in the string "2010"? *Only represent the characters between the quotation marks.) Note: There is space between 2010.*

3. Demonstrate how to convert the following 2's complement binary numbers to decimal.

A) 0110

B) 01101111

4. Demonstrate how to convert the given decimal numbers to 10-bit 2's complement numbers:

A) 406

B) -406

5. Demonstrate how to get the decimal values for the following 8-bit unsigned binary numbers:

A) 11010010

B) 01011001

1. Demonstrate how and give the decimal values for the following 8-bit 2's complement numbers:

   a. 11010010

   b. 01011001

**(Show work)**What is the decimal value of 1010 1111 if the number of **bits is 8** and the format is 2's complement?

**(Show work)**What is the decimal value of 1010 1111 if the number of bits is 8 and the format is sign magnitude?

**(Show work)**What is the decimal value of 1010 1111 if the number of bits is 8 and the format is unsigned binary?

Demonstrate how to solve the binary Arithmetic **(Show work)**

11001 + 00101

11111 – 01011

Demonstrate how to solve the hexadecimal Arithmetic **(Show work)**

1)

  82CD

+ 1982

_____

  A31

+ E2C

_____

  E2C

- A31

_____

**Bonus**

Show the unsigned binary number 1010 1010 1010.1010 in decimal? **(Show work)**