CSCI E-2A Assignment 3. Due October 5 at 11:59 pm EDT.
Please email your answers to cscie2a@googlegroups.com
Please attach your work as a file, either a pdf (preferred) or a .doc file. Please name the file as follows: Lastname_Firstname_Assignment_3.ext (e.g., Moore_Tyler_Assignment_3.pdf)

1. Binary arithmetic and representation

   A. Perform the following conversions:
   1. 5 (decimal) to binary
   2. 12 (decimal) to binary
   3. 24 (decimal) to binary

   B. How many bits are needed to represent the following:
   1. 8 colors
   2. 16 colors
   3. 1000 colors
   4. 1000000 colors

   C. Computers today use 24 bits to store color information. How many colors can be represented?

2. Finding hidden data in documents

Please inspect the three documents accessible from the course website (a Word document, pdf and jpeg picture). Study these files to discover as much as you can about the file, as well as who created it and when. As discussed in class, metadata is data that describes data. Study these files' metadata and see what interesting things you can find. For the word document, see whether you can find any hidden changes to the file that are still present. For the picture, find out when it was taken and what type of camera was used.

3. **Only those students who did not view the class live need to answer the following question:**
   Please translate the phrase 'Blown to Bits'
   1. into ASCII-encoded hexadecimal
   2. into UNICODE-encoded hexadecimal
   3. How many bytes of storage is required for each of these ASCII and UNICODE representations?