Problem Set 1
CSCE 440/640 Fall 2012

Due dates: Electronic submission of .tex and .pdf files of this homework is due on **9/5/2012 before 9:00am** on csnet.cs.tamu.edu, a signed paper copy of the pdf file is due on **9/5/2012** at the beginning of class.

Name: (put your name here)

Resources. (All people, books, articles, web pages, etc. that have been consulted when producing your answers to this homework)

On my honor, as an Aggie, I have neither given nor received any unauthorized aid on any portion of the academic work included in this assignment. Furthermore, I have disclosed all resources (people, books, web sites, etc.) that have been used to prepare this homework.

Signature: _____

Problem 1. (15 points) Get familiar with LaTeX. Nicely typeset the definition of the absolute value of a complex number $a+ib$, where a and b are real numbers, and $i^2 = -1$.

Solution.

Problem 2. (15 points) Find the real and imaginary part of the following complex numbers
(a) $(i-1)/(i+1)$.
(b) $(3+4i)/(1-2i)$.
(c) i^n for any integer n.

Solution.

Problem 3. (15 points) Calculate the modulus (=absolute value) of the following complex numbers:
(a) $-3+i$.
(b) $2+3i$.
(c) i^n for all integers n.

Solution.

Problem 4. (15 points) Exercise 2.1 in the lecture notes.

Solution.

Problem 5. (15 points) Exercise 2.2 in the lecture notes.

Solution.

Problem 6. (15 points) Exercise 2.3 in the lecture notes.

Solution.

Problem 7. (10 points) Register for piazza. After completing the previous questions, fill out the poll in piazza concerning homework 1 (will be available in a few days).

Solution. (Note here the time and date when you logged into piazza to fill out the poll). Note that addiing to piazza will not be done in the last 24 hours prior to the deadline.

Discussions on piazza are always encouraged, especially to clarify concepts that were introduced in the lecture. However, discussions of homework problems on piazza should not contain spoilers. It is okay to ask for clarifications concerning homework questions if needed.

Checklist:
- ☐ Did you add your name?
- ☐ Did you disclose all resources that you have used?
  (This includes all people, books, websites, etc. that you have consulted)
- ☐ Did you sign that you followed the Aggie honor code?
- ☐ Did you solve all problems?
- ☐ Did you submit (a) your latex source file and (b) the resulting pdf file of your homework?
- ☐ Did you submit (c) a hardcopy of the pdf file in class?