# CS 220, Fall 2016
# Assignment 1 – (100 points)
# **Due date: 07 Sep 2016, 11:59pm**.
# Submit on Blackboard.

## Instructions

- Answer the questions individually. Group effort is not allowed.
- You will find prog.h, prog.c, Makefile, main.o, input1.txt and input2.txt attached. Write your code inside prog.c.
- Submit on Blackboard. Upload **only** your prog.c file.
- `input1.txt` and `input2.txt` contain sample inputs for the 1st and 2nd questions respectively. You can modify the contents to test your code. In order to test your code:
  1. Implement the functions in prog.c.
  2. In a terminal, navigate to the folder that contains the code and type `$make` to build the code and generate `prog`.
  3. Execute `prog`. Files `output_input1.txt` and `output_input2.txt` will be generated. File `output_input1.txt` contains the output generated when contents of `input1.txt` is applied to function in Question1. Similarly `output_input2.txt` contains output generated when contents of `input2.txt` is applied to function in Question 2.
- Useful resources:
  1. Common linux commands: http://www.informit.com/blogs/blog.aspx?uk=The-10-Most-Important-Linux-Commands

## Questions

1. A Fibonacci sequence is a series of numbers: 0, 1, 1, 2, 3, 5, 8, ... where: The first number is 0, the second number is 1, and each successive number is found by adding the two preceding numbers. Write a function with name “nthFib” that

accepts an integer as input and returns the nth Fibonacci number (of type int) as output. $1 \leq n \leq 30$. If $n < 1$ or $n > 30$, return -1. Use the prototype: `int nthFib(int n)` (70 points)

2. Write a function with name "asq_minus_bsq" that accepts two integers `a, b`, and returns $a^2 - b^2$. Use the prototype `int asq_minux_bsq(int a, int b)`. (30 points)