CS180 - Homework 1

LATEST due date: Thursday 10/11 at 9:59AM

Late homeworks will NOT be accepted. Mailbox drop-off, electronic submissions and other methods are not acceptable.

1. Exercise 2, Page 22
2. Exercise 3, on Page 22
3. Exercise 8 on page 27
4. Exercise 4 on page 67
5. (a) Prove (by induction) that the sum of the first $n$ integers, \((1 + 2 + \ldots + n)\), is \( \frac{n(n+1)}{2} \)
   
   (b) Prove (by induction) that \(1 \times 2 + 2 \times 3 + 3 \times 4 + \ldots + (n)(n+1) = \frac{(n)(n+1)(n+2)}{3} \)

6. How many tries do you need in the two egg problem when there are 200 steps? What about \(n\) steps?