Math 1272/D, Fall 2013 — Quiz #1: Oct 2 - Oct 7, 2013

- **The quiz will be collected at the beginning of class on Monday, Oct 7.**
- **You are allowed to use the textbook (or other texts), your homework, and your notes, but please work on this quiz individually.**

The following data set lists the high temperatures (in degrees Fahrenheit) observed in Central Park on July 4th from 2003-2012 (obtained via `http://www.erh.noaa.gov/okx/climate_cms.html`):

Year	x = high temp (F)
2003	96
2004	92
2005	82
2006	83
2007	87
2008	71
2009	78
2010	79
2011	96
2012	92

1. Find the median high temperature for this sample.
2. Construct an expanded frequency distribution for this data set by filling in the following table:

Class	Frequency, f	Relative frequency	Cumulative frequency
70-74	1	0.1	1
75-79	2		3
80-84			
85-89			
90-94			
95-99			

3. Use the expanded frequency distribution to sketch the frequency histogram and cumulative frequency graph (the "ogive").

4. Calculate the sample mean:

$$\bar{x} = \frac{\Sigma x}{n} =$$

5. Fill in the following table of deviations and squared deviations:

High temp, x	Deviation: $x - \bar{x}$	Squared deviation: $(x - \bar{x})^2$
96		
92		
82		
83		
87		
71		
78		
79		
96		
92		

6. Calculate the sum of squared deviations (SS_x), the *sample* variance s^2, and finally the *sample* standard deviation s:

$$SS_x = \Sigma(x - \bar{x})^2 =$$

$$s^2 = \frac{SS_x}{n-1} =$$

$$s = \sqrt{s^2} =$$

7. **Extra credit:** Create a spreadsheet to do the calculations for #5 and #6 and email it to me (sganguli @ citytech.cuny.edu).