L38: April 10, 2017.

Housekeeping: · Week 8 { summary / discussion } due 11:59 p.m. on Canvas (last ones!)

- Homework assignment due Wednesday in class
- Quiz on Wednesday
- Extra credit: Bring an infographic & lead some discussion about it
- Final essay: draft due on Canv. Apr. 19, 11:59 pm.
  * SUBMISSIONS NOT WORKING?

Last time: · Mean (expected value) of random variable
· Standard deviation ——— " ———

QUESTIONS?

This time: Binomial distribution

Standard Deviation of a Random Variable

x	$P(X=x)$	$x \cdot P(X=x)$	$(x-\mu)^2 P(X=x) = (x-5.4)^2 \cdot P(X=x)$
2	0.1	$2 \cdot 0.1 = 0.2$	$(2-5.4)^2 \cdot 0.1 = (3.4)^2 \cdot 0.1 = 1.156$
4	0.3	$4 \cdot 0.3 = 1.2$	$(4-5.4)^2 \cdot 0.3 = (1.4)^2 \cdot 0.3 = 0.588$
6	0.4	$6 \cdot 0.4 = 2.4$	$(6-5.4)^2 \cdot 0.4 = (0.6)^2 \cdot 0.4 = 0.144$
8	0.2	$8 \cdot 0.2 = 1.6$	$(8-5.4)^2 \cdot 0.2 = (2.6)^2 \cdot 0.2 = 1.352$
	+	+	+
	1 ✓	$\mu = 5.4$	$\sigma^2 = 3.24$ (variance)
		$E[X] = 5.4$	

$$\sigma = \sqrt{\sigma^2} = \sqrt{3.24}$$

$$\sigma = 1.8$$