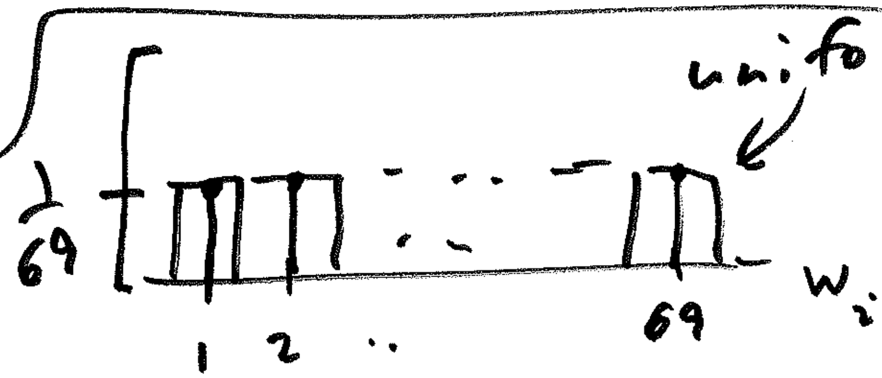
this time: PMF, PDF,

next time: CDF, inverse CDF

new due date for take-home test 1: uploaded to canvas.ucsc.edu by 11.59pm Sun 5 May 2019

AMS131 25Apr19

next week: DD office 1.5 hours M Tu 3.30-5pm W Th 3.30-5pm, F Sa Su (Jack's Lounge)



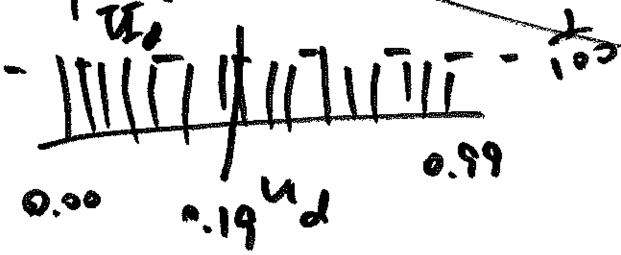
$$\sum_{y=a}^{b} f_Y(y) = 1 = \sum_{y=a}^{b} \left(\frac{1}{b-a+1} \right) = 1$$

≥ 0

$$Y \sim \text{Binomial}(n, p)$$

parameters

$f_{U_d}(u_d)$



U_d in steps of 0.01

$$P(0.0 \leq U_d \leq 0.19) = \sum_{u_d = 0.00}^{0.19} f_{U_d}(u_d) = 0.2$$

$$P\left(a-\frac{\epsilon}{2} \le X \le a+\frac{\epsilon}{2}\right) \doteq \epsilon \cdot f_X(a)$$

$$\boxed{f_X(a)} \doteq \frac{\boxed{P\left(a-\frac{\epsilon}{2} \le X \le a+\frac{\epsilon}{2}\right)}}{\epsilon}$$

density

probability per small interval on number line

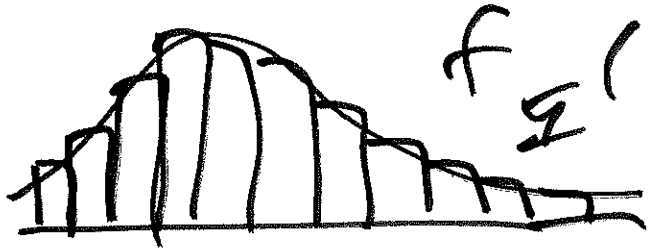
probability

probability concentration near a

ex. pop. density $= \dfrac{\#\text{ people}}{\text{sq mi}}$

concentration of people

distribution of X $\leftrightarrow$ $f_X(y)$ (X continuous)



density of X

$\leftrightarrow$ "histogram of X"