

MSI Sessions Start Oct. 5

Mon. 9:30am - 10:40am ARCenter 203

Mon. 5:00pm - 6:10pm TBA

Tues. 12:00pm - 1:15pm ARCenter 203

Wed. 12:30pm - 1:40pm Merrill College 003

Course packets available monday at the Literary Guillotine, price unknown. More info will be online.

This time: descriptive methods

Next time: normal curve

Last time: variables & the values they take on

Variable	Values			
eye color	blue [Ⓟ] , brown [Ⓟ]	qual.	nominal	dichotomous
hair color	black, brown, red, blonde, blue	qual.	nominal	
success at maze running	very slow, slow, moderate, fast, very fast	qual.	ordinal	not dich.
plant size	height (cm)	quant.	cont.	
	# of leaves	quant.	discrete	

discrete: gaps between values ^{unattainable}

continuous: conceptually

Height quant. cont.

✓ tomato plant 1 is twice as tall as tomato plant 2: $\frac{20\text{cm}}{10\text{cm}}$

0cm of height = absence of height ratio scale

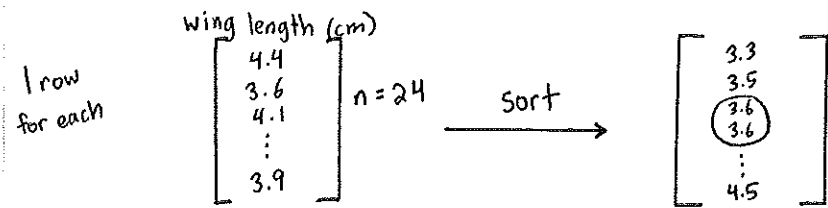
vs.

Temperature quant. cont.
(daily max) interval scale

~~X 74°F is twice as hot as 37°F~~

✓ 74°F is 34°F higher in temp. than 40°F.

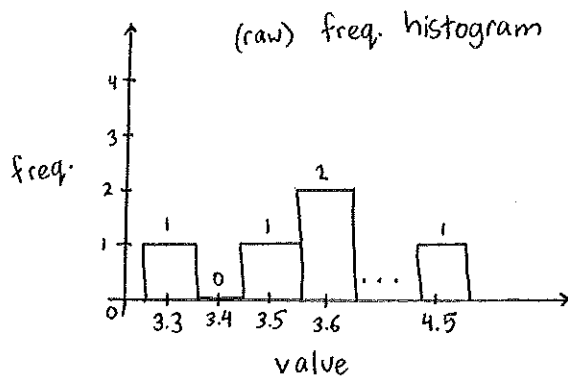
interval



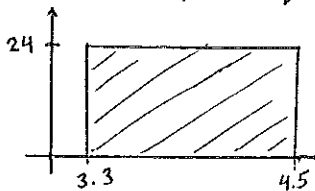
value	(raw) (counts) frequency
3.3	1
3.4	0
3.5	1
3.6	2
...	...
4.5	1

n = 24

(raw) frequency distribution



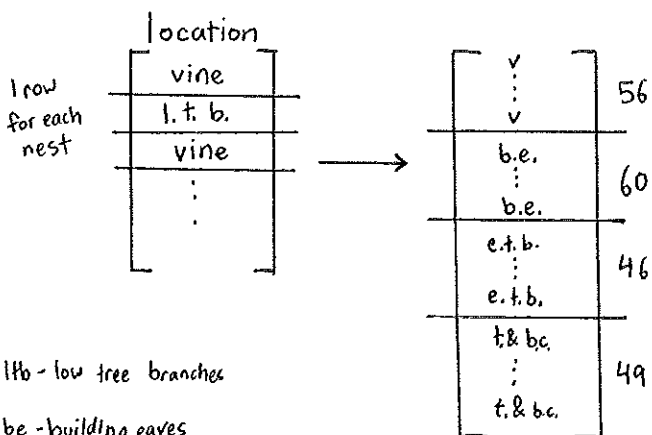
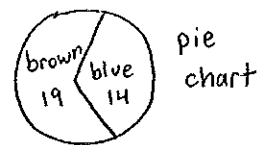
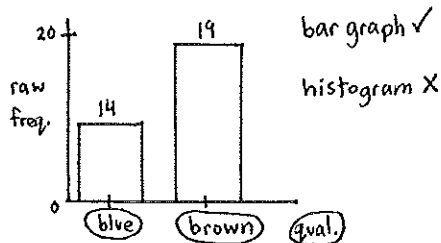
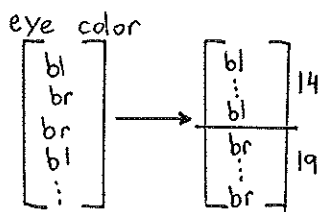
Q: Is there only 1 unique hist. for any given variable? A: No



this is another hist. for this variable

(bad) - too few bars

✓ bar graph ✓ histogram (quant.)



qual.
nominal
histogram ok? No
bar graph ok? Yes

lfb - low tree branches

be - building eaves

t&bc - tree & building cavities

amount of black pigmentation

s.s. 1
s.b.p. 4
⋮

low for each sunfish

qual ordinal

histogram ok? No

bar graph ok? Yes

Note: Histograms don't have spaces between bars, bar graphs do.

of pups

5
3
5
6
⋮

low for each litter

quant.

discrete

ratio

histogram ok? yes

of aphids

19
33
4
⋮

low for each clover plant

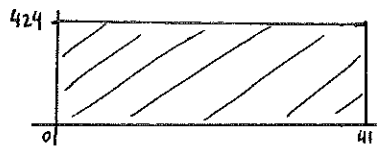
histogram ok? Yes!

n = 424

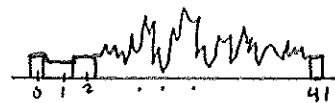
quant

discrete

ratio



a bad histogram too few bars! (1 bar)



another bad histogram too many bars (42 bars)

phosphorus concentration

8.67
9.13
8.28
⋮

low for each plant

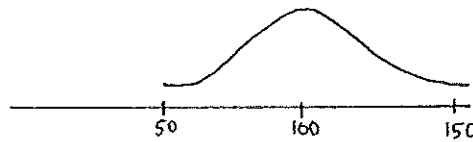
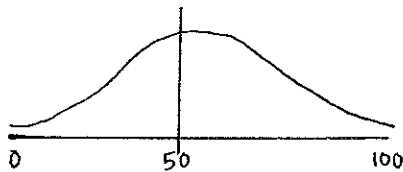
n = 130

quant.

cont.

ratio

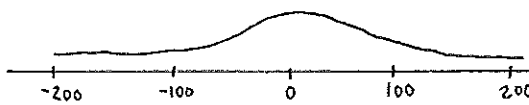
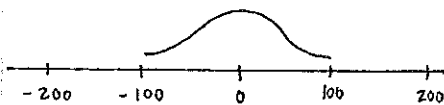
histogram ok? yes



same shape

same spread

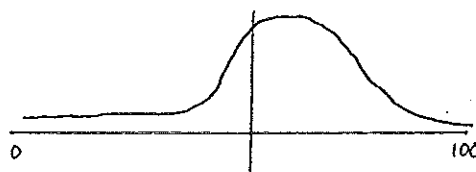
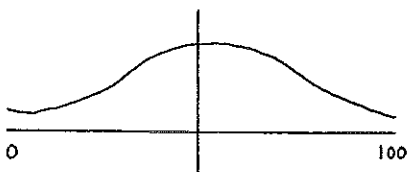
different center



same shape

same center

different spread



same center

same spread

different shape