Stat 7 - class 3

Oct-3

L-13

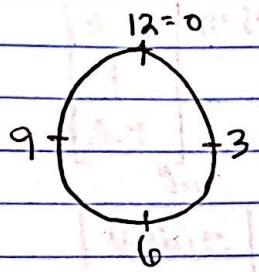
example 4:

0°F → arbitrary
0 inches tall → height doesn't exist
0°C → freezing point of water

80° day is not twice as hot as 40° day

example 3:

a. yes: 15 → 16, 62 → 63 (different by the same #)
variables measured on an interval-scale



What time? quantitative, continuous, interval

Homework 1: 1a

	litter size
1 row for each litter	6
	3
	~~2.7~~
	~~0~~

- quantitative
- discrete
- ratio
  - ↳ zero has meaning

L-14

animal identifier mean (243.9) is not meaningful
Hair color mean (1.2) "
these are qualitative variables

*in JMP you can mark the variables as nominal

observed immature Monarch butterflies

population

sample

wing length

n=24

mean

graphical numerical

description of existing data set

y = wing length (in cm) (order irrelevant)

4.4	3.3
3.6	3.5
3.3	3.6
⋮	⋮
3.9	4.5
y_n	y

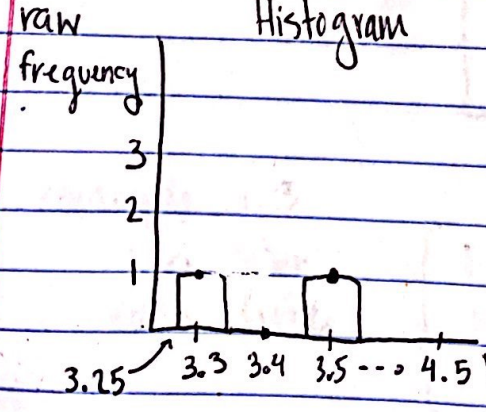
n=24 sort → S→L

identical information

value	raw frequency
3.3	1
3.4	0
3.5	1
⋮	⋮
4.5	1
Total	n=24

highest frequency = mode

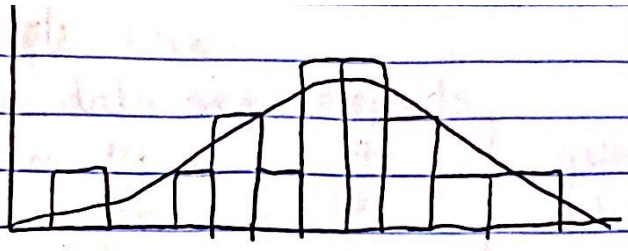
Histogram



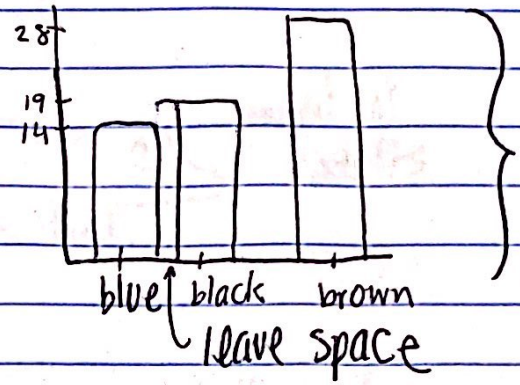
= spike plot

(L-17)

(L-17 graph)



eye color [blue, black, brown]



graph for a qualitative variable

example 1.1
(L-18) qualitative, nominal, bar graph, not dich.

[vines, branch, vine, ⋮]

1 row for each nest

L-18) example 1.2

1 row for each sunfish [2, 4, 2, ⋮]

qualitative, ordinal, not dich., bar graph

example 1.3

1 row for each litter [5, 3, ⋮]

quant, discrete, ratio, not dich, histogram (bars touch)

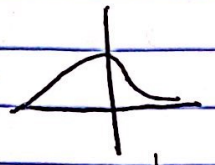
(L-19) example 1.4a

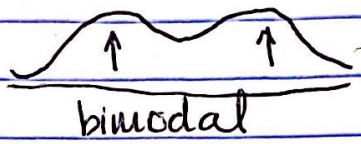
raw data set — # aphids

1 row for each clover plant

aphids
27
16
⋮

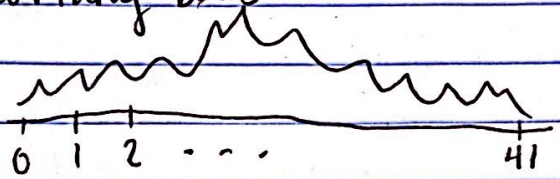
quant, discrete, ratio, not dich, histogram





height of adults

too many bars

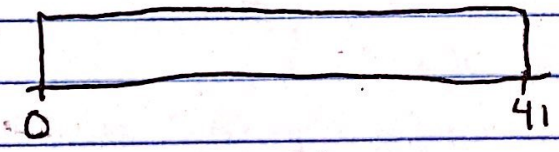


= a bad histogram, lost basic shape in noise

42 bars

$n = 424$

too few bars



= a bad histogram, lost all sense of shape