

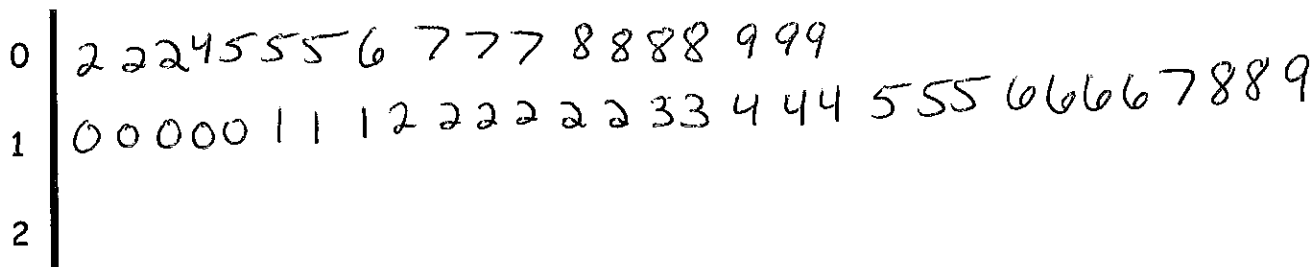
## Notes for Topic 7 (part I): Displaying and Describing Distributions

### Penny Spinning

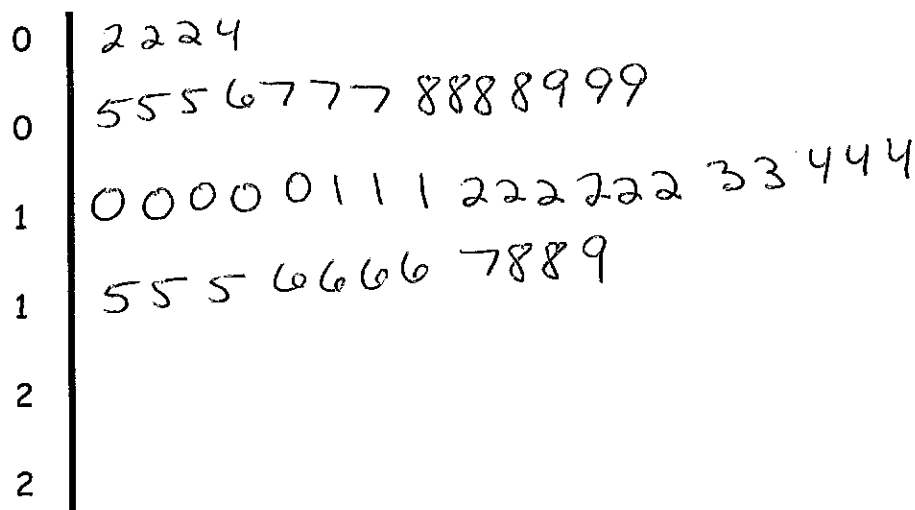
In pairs you will spin a penny and time how long it takes for it to come to a stop. Do this three times and write the times down in the table below.

✓11	✓9	✓10	✓14	✓2	✓5	✓19	✓5
✓13	✓7	✓5	✓9	✓2	✓8	✓16	✓6
✓15	✓8	✓8	✓7	✓2	✓12	✓14	✓7
✓17	✓4	✓16	✓12	✓8	✓13	✓12	✓10
✓18	✓10	✓12	✓15	✓10	✓16	✓9	✓15
✓14	✓11	✓10	✓16	✓12	✓18	✓11	✓12

Use the data in the table to complete the stem and leaf plot below:



Now use the data to create a split stem and leaf plot



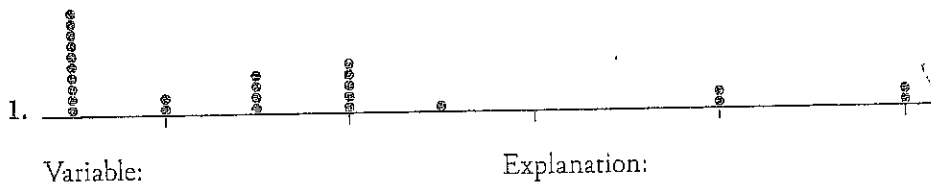
### Activity 7-1:

Consider the following seven variables:

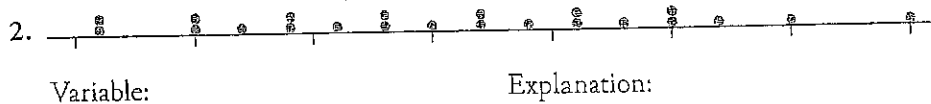
- A. Point values of letters in the board game Scrabble
- B. Prices of the properties on the Monopoly game board
- C. Jersey numbers of Cal Poly football players in 2006
- D. Weights of rowers on the 2004 U.S. men's Olympic team
- E. Blood pressure measurements for a sample of healthy adults
- F. Quiz percentages for a class of statistics students (quizzes were quite straightforward for most students)
- G. Annual snowfall amounts for a sample of cities around the U.S.

- a) Decide if each variable is categorical or quantitative.
- b) Match each data set to a dot plot that should fit the given criteria

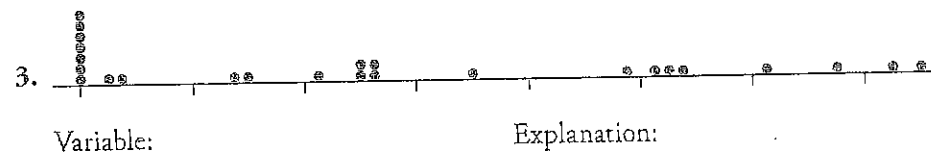
A



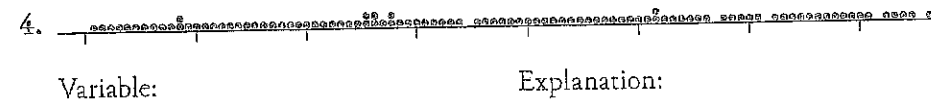
B



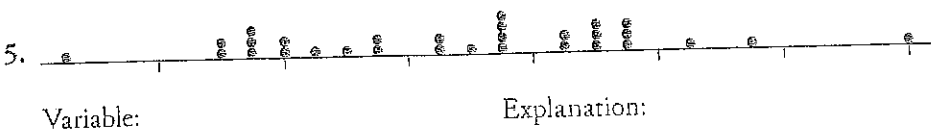
G



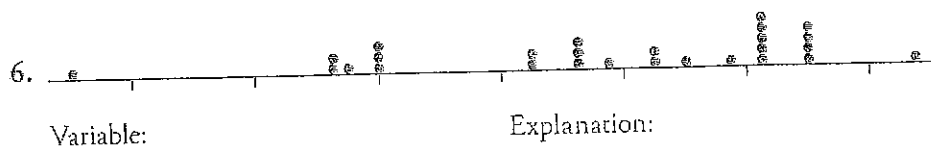
C



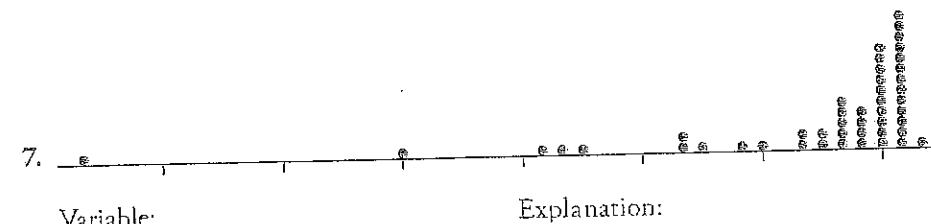
E



D



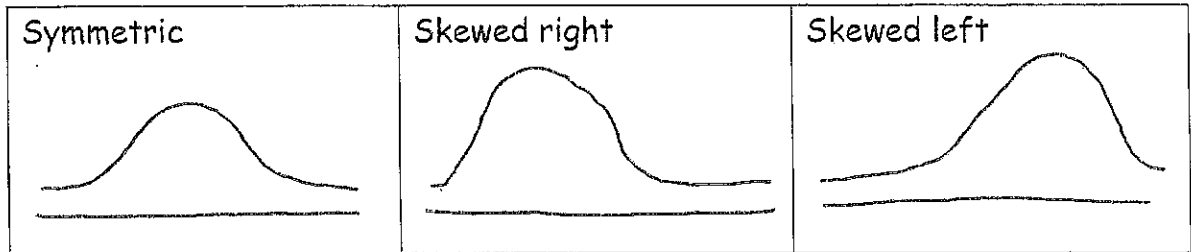
F



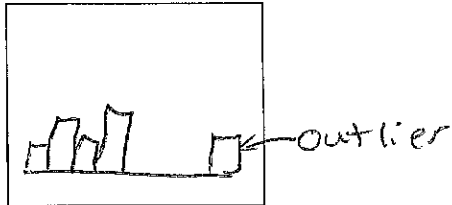
When describing a graph you should always remember your SOCS

S = shape    O = outliers    C = center    S = spread

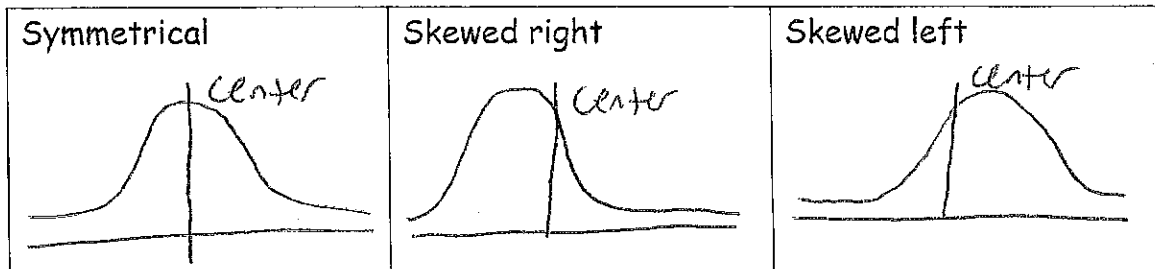
**Shape:** a distribution can be symmetric, skewed to the right, and skewed to the left. Draw a diagram of each below.



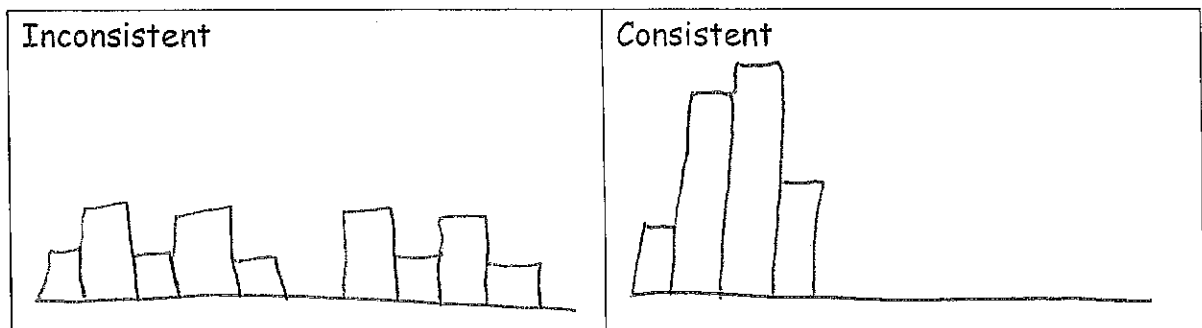
**Outliers:** data values that differ markedly from the pattern established



**Center:** where does the middle of the data seem to lie?



**Spread:** also known as variability or consistency, describes how far the data is stretched out or how clustered it is



### Activity 7-3:

The following table lists the years on the throne for the monarchs of Great Britain, beginning with William the Conqueror in 1066:

Ruler	Reign	Ruler	Reign	Ruler	Reign	Ruler	Reign
William I	21	Edward III	50	Edward VI	6	George I	13
William II	13	Richard II	22	Mary I	5	George II	33
Henry I	35	Henry IV	13	Elizabeth I	44	George III	59
Stephen	19	Henry V	9	James I	22	George IV	10
Henry II	35	Henry VI	39	Charles I	24	William IV	7
Richard I	10	Edward IV	22	Charles II	25	Victoria	63
John	17	Edward V	0	James II	3	Edward VII	9
Henry III	56	Richard III	2	William III	13	George V	25
Edward I	35	Henry VII	24	Mary II	6	Edward VIII	1
Edward II	20	Henry VIII	38	Anne	12	George VI	15

- a. Who is the current monarch? Why do you think his/her reign is not represented here (as of December 2006)?

Queen Elizabeth II, her reign is not done

- b. How many years was the longest reign? Which monarch was on the throne the longest?

63 ; Queen Victoria

- c. How many years was the shortest reign? What do you think this value really means? Which monarch spent the time on the throne?

0, Edward V, did not reign an entire year

Consider the following stemplot

0	0 1 2 3 5 6 6 7 9 9
1	0 0 2 <u>3 3 3 3</u> 5 7 9
2	0 1 2 2 2 4 4 5
3	3 5 5 5 8 9
4	4
5	0 6 9
6	3

- d. how many years on the throne does 6 | 3 represent? Which monarch reigned for that many years? 63, Victoria

- e. How many monarchs reigned for 13 years?

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- f. describe the shape of the distribution.

Skewed right