

Homework 01 Solution

Stats 13, Section 1, Spring 2013

1 (a)

1|679
2|047
3|000449999
4|00112233679
5|0001455
6|000556
7|00001235899
8|000022334444577889999
9|0001122333455555666667779999

(b)

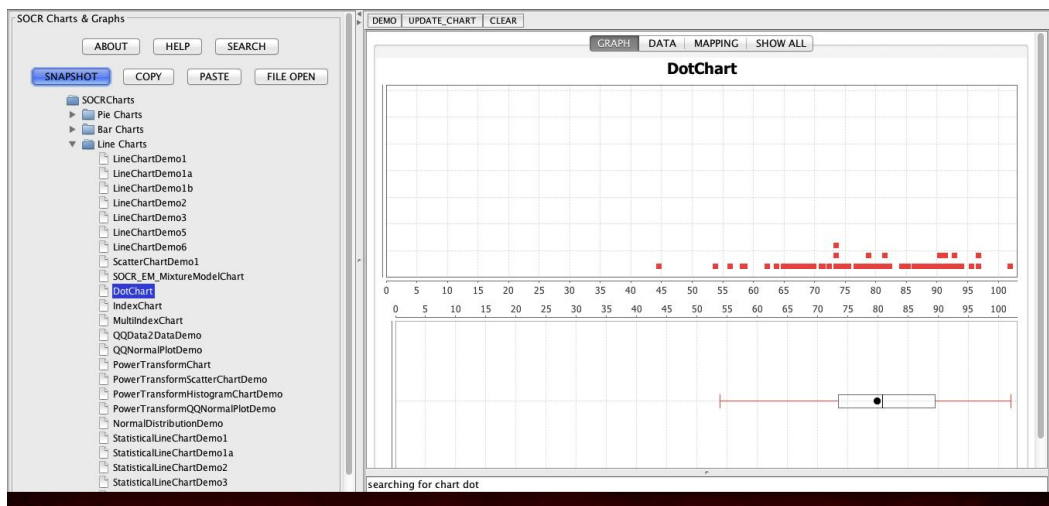


Figure 1: Dot-plot for Education

http://www.stat.ucla.edu/~dinov/courses_students.dir/13/Spring/STAT13.1.dir/assignments.html

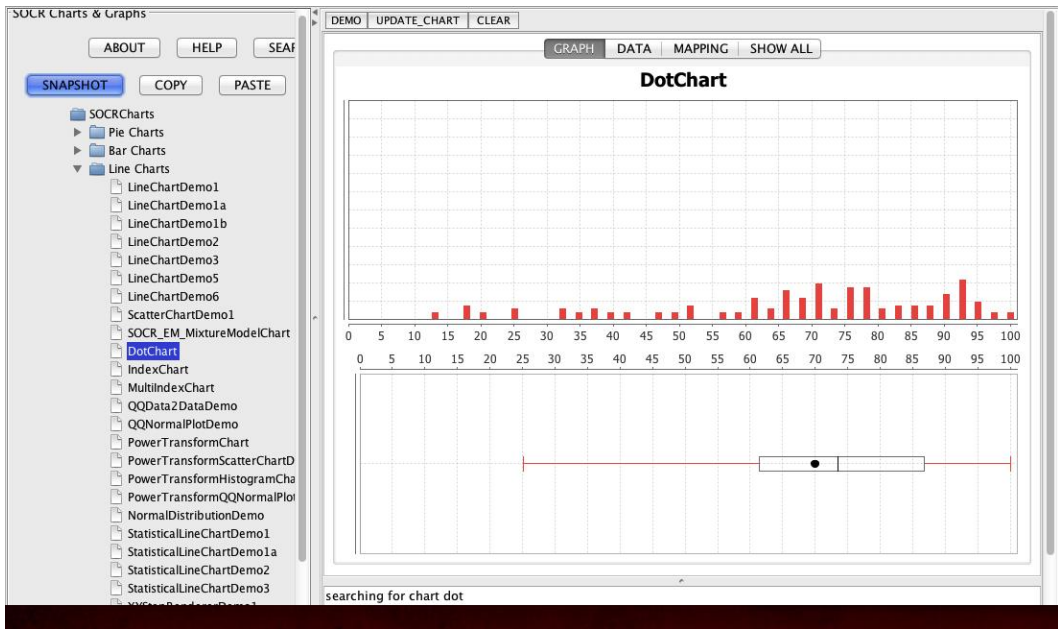


Figure 2: Dot-plot for Health Index

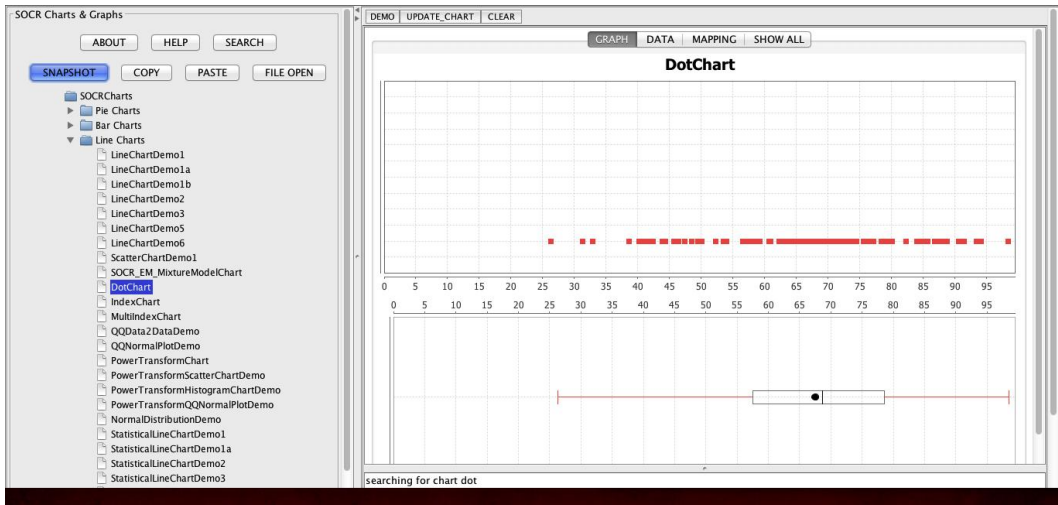


Figure 3: Dot-plot for Quality of Life

2

(a)

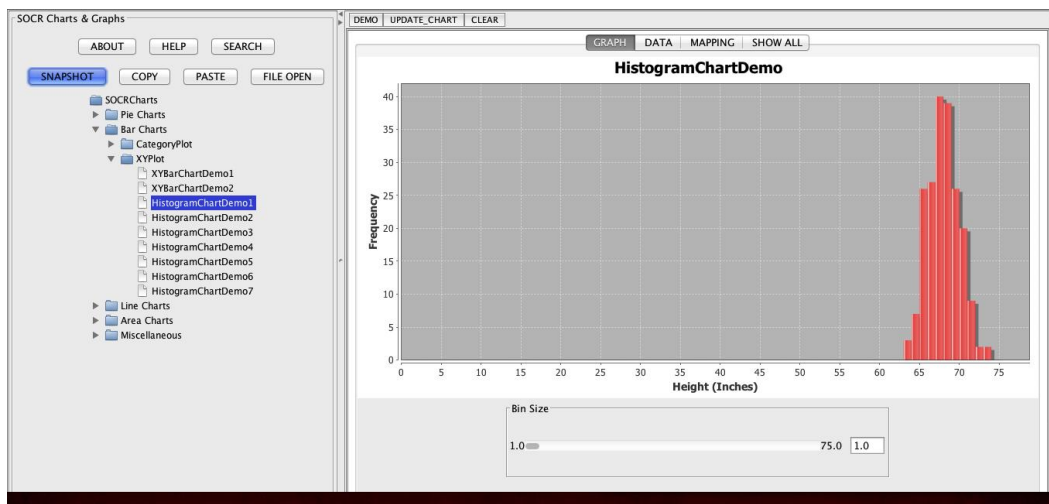


Figure 4: Histogram for Height

Height (Inches)	Frequency
63	2
64	7
65	12
66	29
67	32
68	43
69	31
70	26
71	12
72	4
74	2

The shape does change when the bin sizes change.

3 The distribution is left-skewed and so we eliminate (a) and (b). Since the range of the data is roughly between 12 and 36, we eliminate (c). Our solution is then (d).

4

1st Qu.	Median	Mean	3rd Qu.	IQR	Standard Deviation	Coef. of Variation
5.900	6.200	6.486	6.850	0.95	0.9154754	0.1411526

(a) The mean and standard deviations are 6.486 and 0.9154754, respectively. These give the center and spread of the data.

- (b) See table above.
- (c) See table above.
- (d) After replacing one of the values of 5.9 with 3.9, we obtain the following table:

1st Qu.	Median	Mean	3rd Qu.	IQR	Standard Deviation	Coef. of Variation
5.75	6.20	6.20	6.85	1.1	1.341641	0.2163937

We see that the median is resistance to the change while the mean, standard deviation and IQR are all affected.

5

1st Qu.	Median	3rd Qu.	IQR
4.800	5.000	5.200	0.4

- (a) See table above.
- (b) See table above.
- (c)

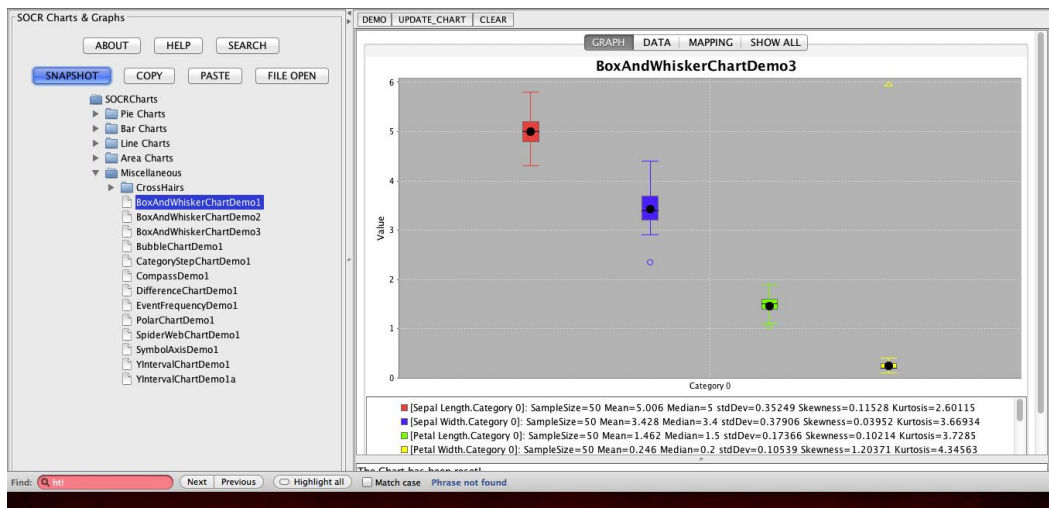


Figure 5: Box and whisker plot for setosa class

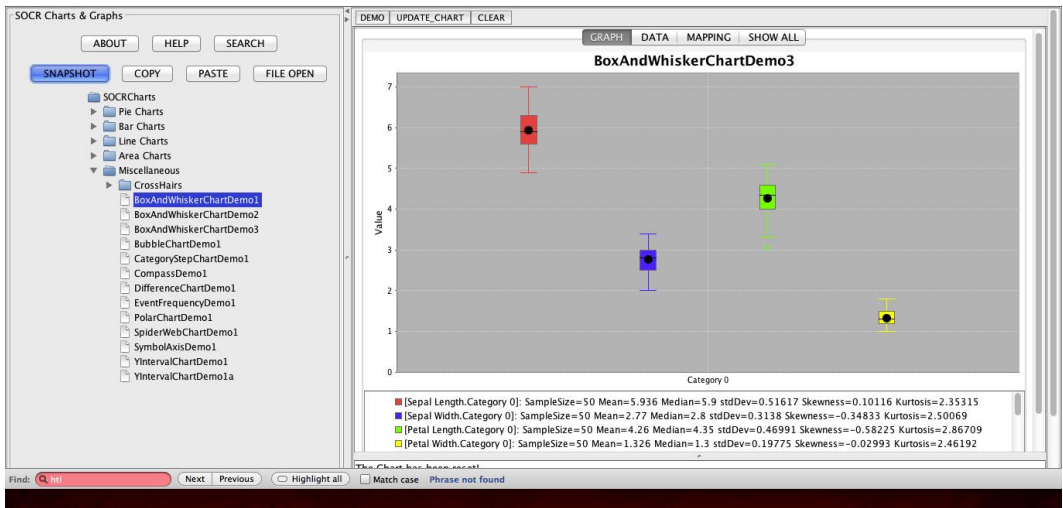


Figure 6: Box and whisker plot for versicolor class

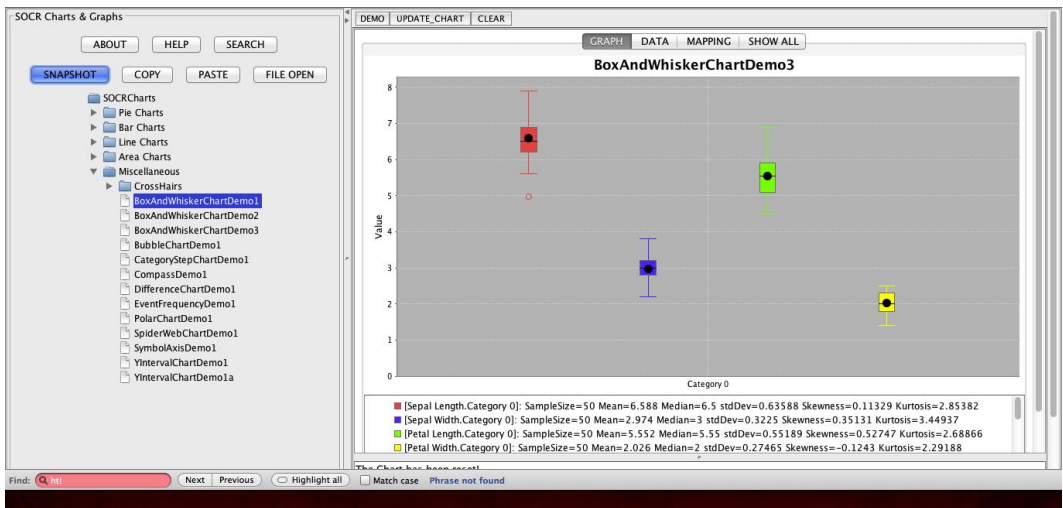


Figure 7: Box and whisker plot for virginica class

6

1st Qu.	Median	3rd Qu.
36	38	41

- (a) See table above.
- (b) See table above.
- (c)

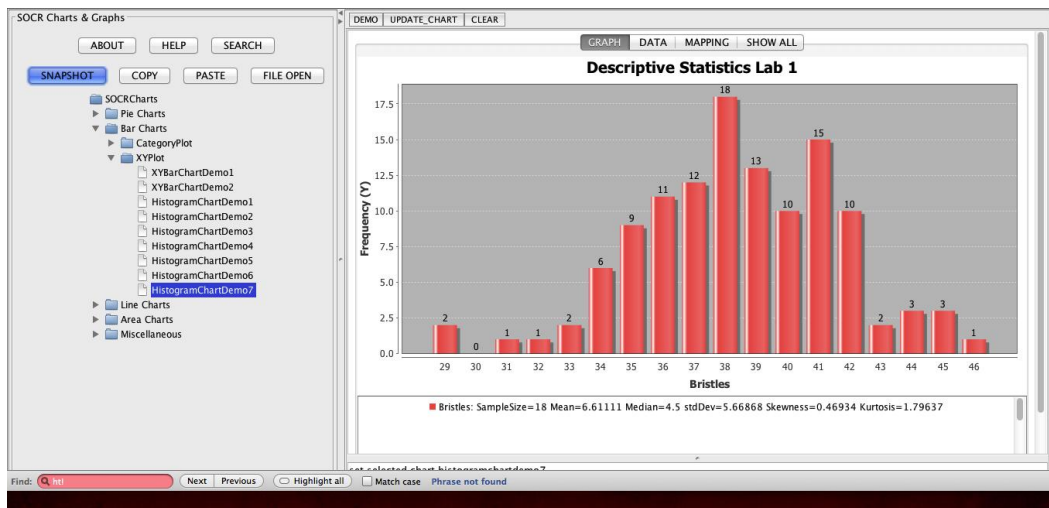


Figure 8: Histogram for the number of bristles

(d) The percentage of observations between 35.25 and 41.65 is

$$\frac{79}{119} \approx 66.38655\%.$$