Quiz 1

Background: This is part of the first quiz given in week 3 of a 17-week semester. (I typically give 4-5 quizzes and 2-3 midterms plus a final exam.) Students take this quiz in a computer lab and use Tinkerplots to make the graphs that are part of their analysis.

Quiz prompt:
Medical researchers conducted a study of the factors potentially associated with low birth weight. Low birth weight is a concern because premature or very small babies are at greater risk for a variety of health problems. They collected data from 189 women who gave birth at a hospital in Massachusetts in 1992.

(1) Choose a variable that you think may be associated with low birth weight. Open a new textbox and explain why you think this variable may be associated with low weight births.

(2) Create a graph to explore the relationship between the variable you chose and low weight births. Choose row, column, or cell percents that will provide a convincing comparison to answer your question. In the textbox you created, answer the question you posed. In your answer compare appropriate percentages and write an accurate interpretation of the percents.

When you have completed your answer. SUBMIT your Tinkerplots file to the Digital Dropbox in Bb.

Data Set:

low_birth_weightplus.txt

○ case 1 of 189 ◀▶
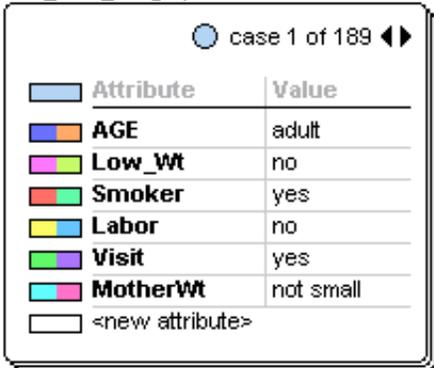
	Attribute	Value
	AGE	adult
	Low_Wt	no
	Smoker	yes
	Labor	no
	Visit	yes
	MotherWt	not small
	<new attribute>	

AGE - teenage = Age of mother 18 or younger, adult = age of mother older than 18.

LowWt - Low birth weight (No (birth weight >= 2500g) Yes (birth weight < 2500g))

Smoker- Smoking status during pregnancy (No, Yes)

Labor- History of premature labor (No, Yes)

Visit - no = did not visit a physician during the first trimester, yes = visited a physician during the first trimester

MotherWt: small (weight at last menstral cycle 100 pounds or less), not small (weight at last menstral cycle more than 100 pounds.)

Student Work Sample #1

1) The variable that I believe is greatly associated with low bith wieght is smoking. I believe that this is the variable that is most likely to greatly affect low birth wieght because smoking durring pregnancy is known to cause low birth wieght along with other serious medical conditions.

2)This data was collected from 189 women who gave birth at a hospital in Massachusetts in 1992 as part of a study on the factors associated with low birth weight . Does the data suggest that women who smoke are at greater risk of having a low birth weight baby as opposed to women who don't smoke? Explain.


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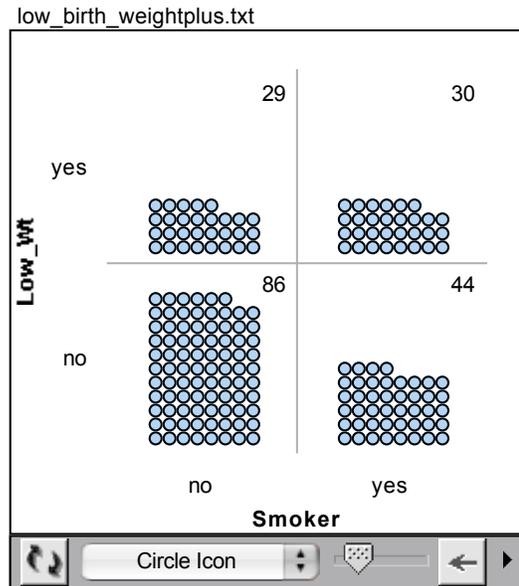
3)Yes, the data shows the percentage of women who smoke vs the percentage of women who don't smoke. Out of these two categories 25% (29 of 115) of the women who don't smoke had a low birth wieght baby as opposed to 41% (30 of 74) of the women who do smoke had a low bith weight baby. You are 1.6 times more likely to have a low birth weight baby if you smoke than if you don't smoke.

Student Work Sample #2

Smoking during pregnacy has been linked to one of the leading cause of low birth weights in infants. One reason is that smoking causes appetite suppression, and women doent eat as much during their pregnancy and the infant does not get all the healthy nutireients it needs. Also it is thought that lung illnesses such as asthma and bronchitis is directly linked to women who smoke during pregnancy.So underdeveloped children will result in higher incidence of low birth weight in children who smoke.

So of the 74 women smokers 59% (44/74) of them had infants with low birth weights, and 41 percent of those women (30/74) had women of normal birth weights.

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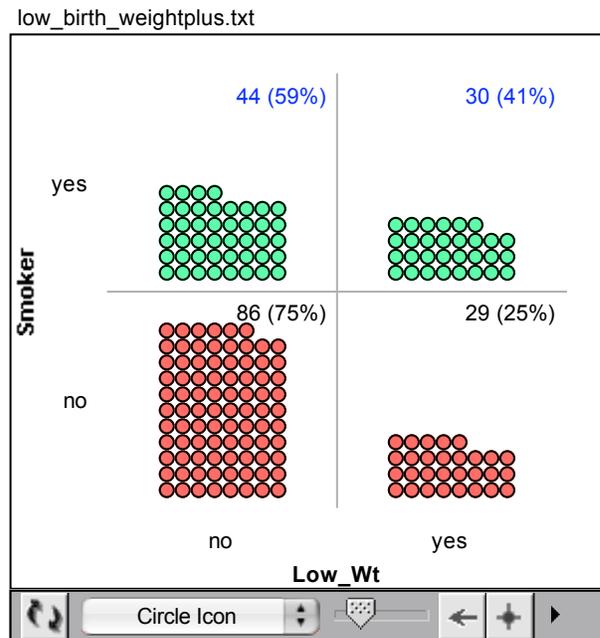
Student Work Sample #3

A variable that I think that may be associated with low birth wieght is wheter or not the she mother vistedthe doctor. I think this a good variable because women who don't go to the docotr have no idea on what happening with their baby and so they wont know if they need to eat more or less.

QUESTION:
DOES NOT VISITING THE THE DOCTOR AFFECT YOUR BABY'S WIEGHT?

Total women who went to the Doctor during their pregnancy was 89. And the total women who didn't go was 100.

23/89=26%
36/100=36%

36%/26%=1.5

SO all in all you are 1.5 times more likely to have low birth weight baby by not visiting the doctor.

low_birth_weightplus.txt
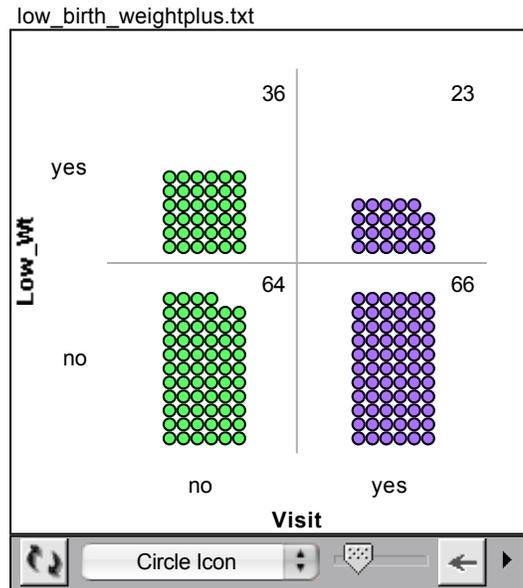
Student Work Sample #4

1) Is it most likley for women who do not visit a doctor during their first trimester to have a low birth weight?
Why do you think that this is related to low birth weight?

Answer: Yes, it is most likely for women who do not vist the doctor during their first trimester to have a low birth weight. Reason being: 26% (23/89) of women that did visit the doctor during their first trimester had a low birth weight. 36% (36/100) of women that did not visit the doctor during their first trimester had a low birth weight. It is 7 times greater (26/36) to have a low birth weight if a women does not visit a doctor during their first trimester.

low_birth_weightplus.txt