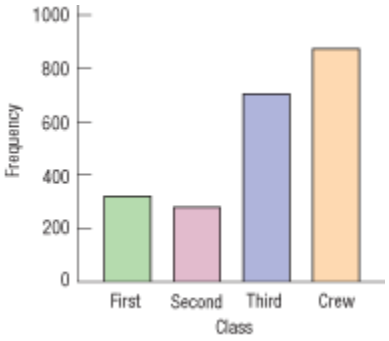
Note: Quiz today on last week's material

Display categorical data

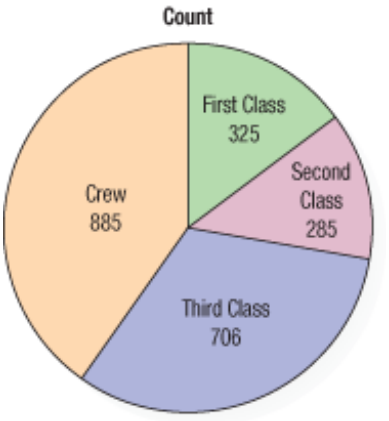
Bar chart(variable vs frequency): used to display the distribution of a categorical variable, showing the counts for each category next to each other for easy comparison. Same width for all and height of each bar shows the count for its category.

E.g.



Pie chart: show the whole group of cases as a circle. They slice the circle into pieces whose size is proportional to the fraction of the whole in each category.

E.g.



Describe categorical data

Contingent table: the table shows how the individuals are distributed along each variable, contingent on the value of the other variable.

Table2.4***Contingency table of ticket* class *and* survival.**

The bottom line of "Total" is the same as the previous frequency table.

		Class				
		First	**Second**	**Third**	**Crew**	**Total**
Survival	**Alive**	203	118	178	212	**711**
	Dead	122	167	528	673	**1490**
	Total	**325**	**285**	**706**	**885**	**2201**

Marginal distribution: the margins of a contingency table, the frequency distribution of one of the variables

E.g. orange portion of the table. The orange column is the marginal distribution of the variable survival.

The orange row is the marginal distribution of the variable class.

Conditional distribution: show the distribution of one variable for just those cases that satisfy a condition on another variable

E.g. green portion of the table. Conditional distribution of class for those who were alive.

Find the percent of first class among those who were alive, and then repeat for the second, third, and crew.

$\frac{203}{711} = 28.6\%$ $\frac{118}{711} = 16.6\%$ $\frac{178}{711} = 25\%$ $\frac{212}{711} = 29.7\%$

Questions:

1. A student organization is trying to decide whether to offer more cafeteria on campus or not. A random sample of 1000 students was asked if they were in favor of more cafeteria on campus. The results by gender are shown in the table below:

Gender	Opinion		
	In favour	No opinion	Opposed
Male	330	165	55
Female	225	180	45

   (a) What proportion of the sampled students is in favor of more cafeteria on campus?

   (b) What proportion of the sampled students is opposed cafeteria on campus?

   (c) What proportion of the sampled females is in favor of more cafeteria on campus ?

   (d) What proportion of the sampled males is opposed of more cafeteria on campus ?

2. Some people find out about the news by reading a newspaper, and some by watching TV. Does this depend on the level of education? A study sampled 400 people, a mixture of university graduates and those who graduated from high school but who have no university, and recorded how each individual found out about the news, as shown below.

Education	News Source	
	Television	Newspaper
High School	159	91
University	60	90

   (a) What percentage of the people in this sample get their news from television?

   (b) Among those with only a high school education, what percent gets their news from television?