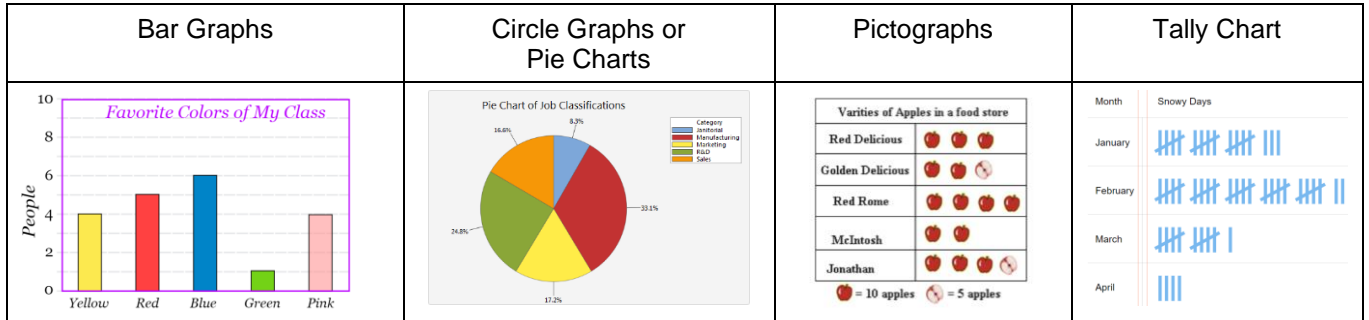


3.3 Display Data

A Categorical Data

- ✓ are types rather than numbers
- ✓ are given labels rather than being measured numerically

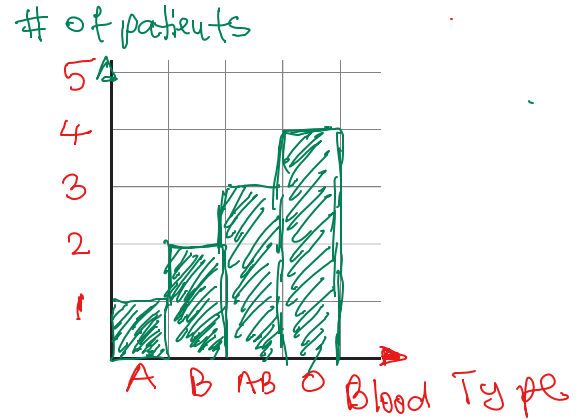
Categorical data are illustrated by:



Example 1. A nurse is collecting blood type data from her patients. When a new patient is checked in, the nurse does a simple finger-prick test to see whether the patient's blood is type A, B, AB, or O. (These are the four possible blood types. She tracks her results by creating a two-column table with the patient's name and blood type. Display this data by using a bar graph.

Name	Blood Type
Dominique	A
Ilya	O
Raul	AB
Madison	O
Philip	AB
Samuel	B
Josefine	O
Brett	O
Paula	B
Leticia	AB

Blood Type	Tally	Frequency
A		1
B		2
AB		3
O		4



Example 2. The pictograph below shows the number of medals earned at an international competition. How many medals did Japan earn?



Japan earn 16 medals

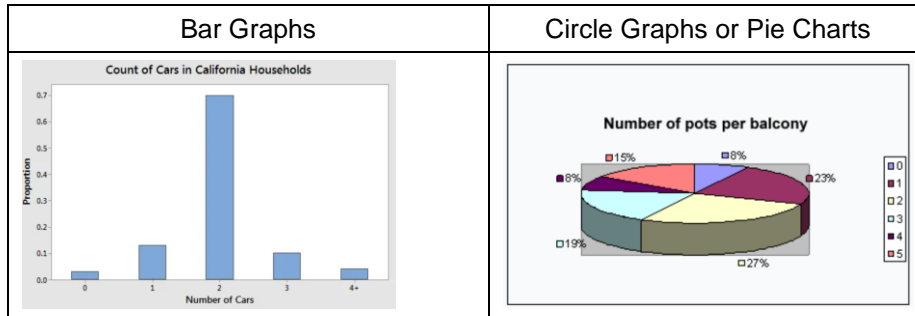
Country	Medals	# of medals
Japan	◆◆◆◆	16
Argentina	◆◆	8
Germany	◆◆◆◆◆	24
Egypt	◆◆◆◆	16

◆ = 4 medals

B Discrete Data

- ✓ data that can only take certain values
- ✓ data are distinct and can be counted

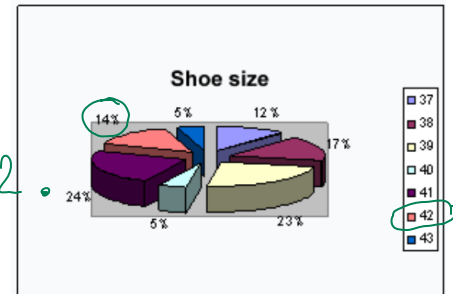
Discrete data are illustrated by:



Example 3. The following pie chart shows the shoe size of 150 people. How many people have a size 42 shoe?

14% of people have a size of 42
 $(14\%)(150) = \frac{14}{100} \cdot 150 = 21$

∴ 21 people have a shoe size of 42.



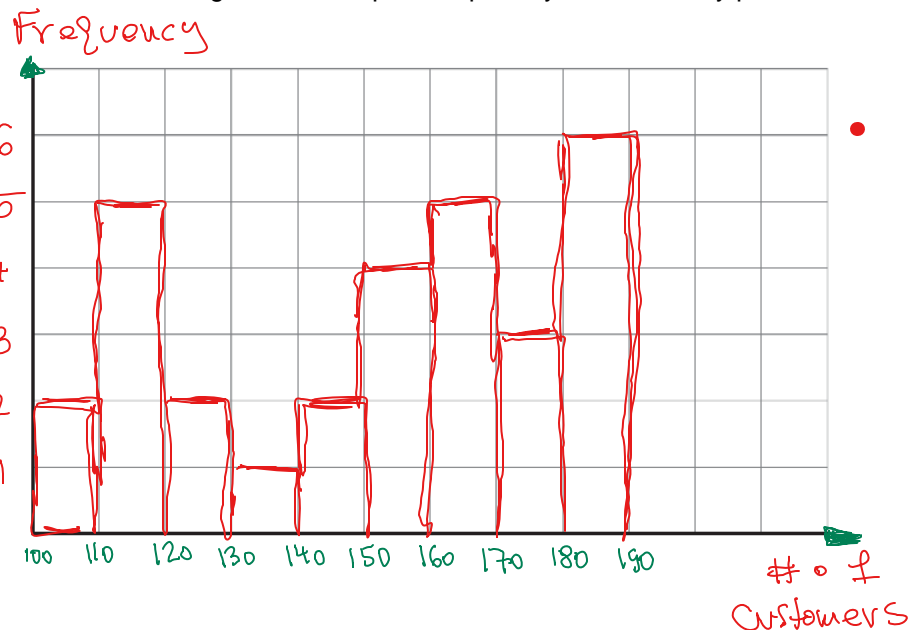
C Continuous Data

- ✓ Data can have any numerical value (within a range)
- ✓ Examples include length, size, width, time, temperature, cost, etc.
- ✓ Histograms are a standard way to graph continuous variables because they show the distribution of the values

Example 4. During July, a local theatre recorded the following numbers of patrons per day over a 30-day period. Construct a histogram of these data.

102	116	113	132	128	117	156	182
183	171	160	140	154	160	122	187
185	158	112	145	168	187	117	108
171	171	156	163	168	182		

Interval	Tally	Frequency
[100,110)		2
[110,120)		5
[120,130)		2
[130,140)		1
[140,150)		2
[150,160)		4
[160,170)		5
[170,180)		3
[180,190)		6



D Technology

Technology (like Google Sheets) may be used to create graphical displays of data by using a Bar Graph, Pie Chart or Line Graph.

Example 5. Imagine you survey your friends to find the kind of movie they like best:

Comedy	14
Action	10
Romance	6
Drama	8
SciFi	12

Use Google Sheets and display this data by using a Pie Chart.

Example 6. In a firm of 400 employees, the percentage of monthly salary saved by each employee is given in the following table. Represent this data through a Bar Graph in Google Sheets.

Savings	Number of Employees
20%	105
30%	179
40%	29
50%	73
60%	14

Example 7. In the table below is given information about temperature in Mississauga, Ontario. Display this data by using a Line Graph in Google Sheets.

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	-5.8	-5.1	-0.6	6.5	12.7	18	21	19.9	15.8	10	3.8	-2.8
Min. Temperature (°C)	-9.6	-9.2	-4.7	1.5	7	12.2	15.2	14.4	10.5	5.2	0.2	-6.3
Max. Temperature (°C)	-1.9	-1	3.5	11.6	18.4	23.8	26.8	25.5	21.1	14.8	7.4	0.7

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