5. Bivariate Data + Line Graph

Lesson 5

Bivariate Data

Definition of

Bivariate Data

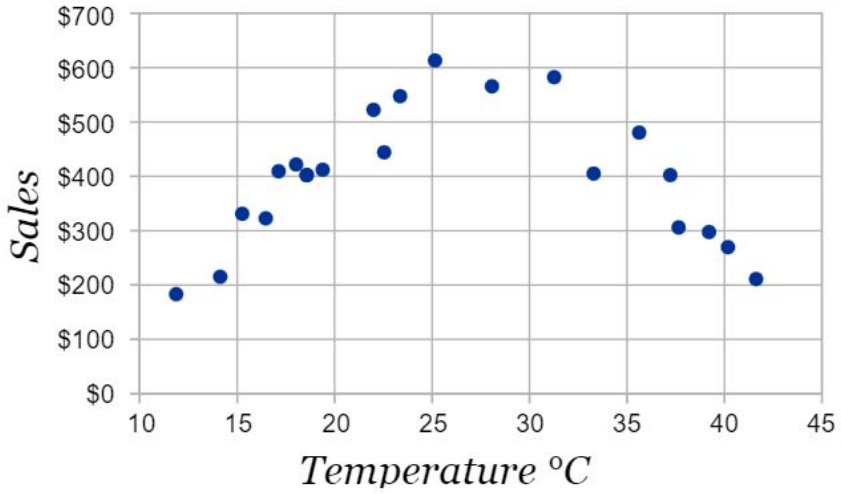
more ...

Data for **two variables** (usually two types of related data).

Example: Ice cream sales versus the temperature on that day. The two variables are Ice Cream Sales and Temperature.

(If you have only one set of data, such as just Temperature, it is called "Univariate Data")

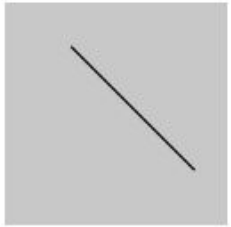
See: Univariate Data



line(x1, y1, x2, y2)

line()

Examples



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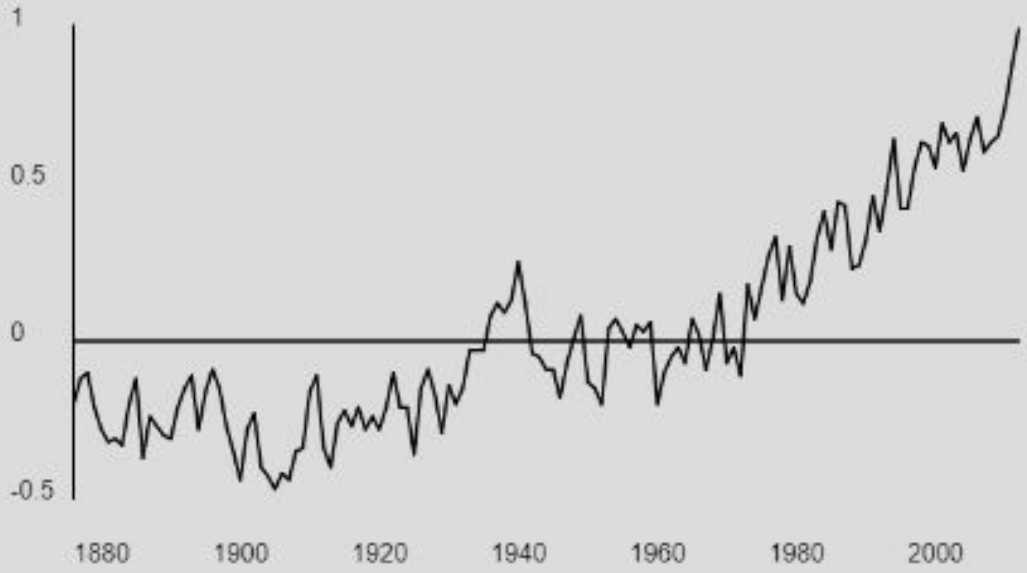
```
line(30, 20, 85, 75);
describe(
  'a 78 pixels long line running from mid-top to
bottom-right of canvas'
);
```

Data

A1 | fx | Year

	A	B	C
1	Year	Difference from mean	
2	2016	0.99	
3	2015	0.87	
4	2014	0.74	
5	2013	0.65	
6	2012	0.63	
7	2011	0.6	
8	2010	0.71	
9	2009	0.64	
10	2008	0.54	
11	2007	0.66	
12	2006	0.63	
13	2005	0.69	
14	2004	0.55	
15	2003	0.62	
16	2002	0.63	
17	2001	0.55	
18	2000	0.42	
19	1999	0.42	
20	1998	0.64	
21	1997	0.48	
22	1996	0.35	
23	1995	0.46	
24	1994	0.32	
25	1993	0.24	

Average global surface temperature difference from the mean



```
  let tempScaled = []

  /
   // pick a lower corner for your graph, draw a vertical and
horizontal axis meeting at that corner.  You will use these number
to line up scales for your data points.


  // use a for loop to go through the data and scaling each data
point using the map function. The years go from 1880 to 2016 and
should be converted using map() to something that will fit on your
graph. The temp goes from -0.5 to 1.  Save each value in the list
that goes with each.

// use a for loop to draw a line connecting one data points
(year,temp) to the next (year,temp), continue this for all of the
data points. hint: you will have to adjust for the last point in the
set

// use the same scale that you mapped the points to, use it to draw
a scale for the vertical and horizontal axis
```

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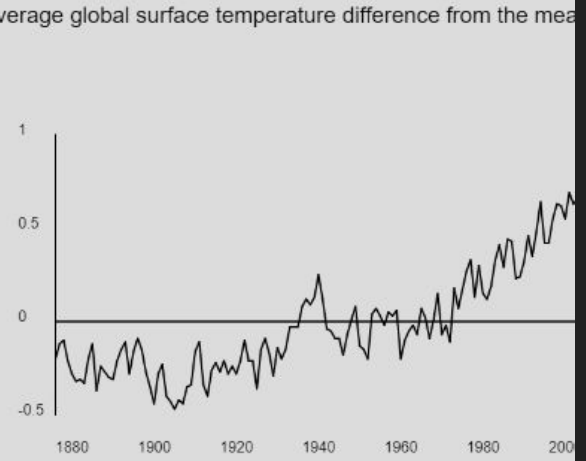
▶ *(137) [350, 347.79411764705884, 345.5882352941177, 343.3823529411*



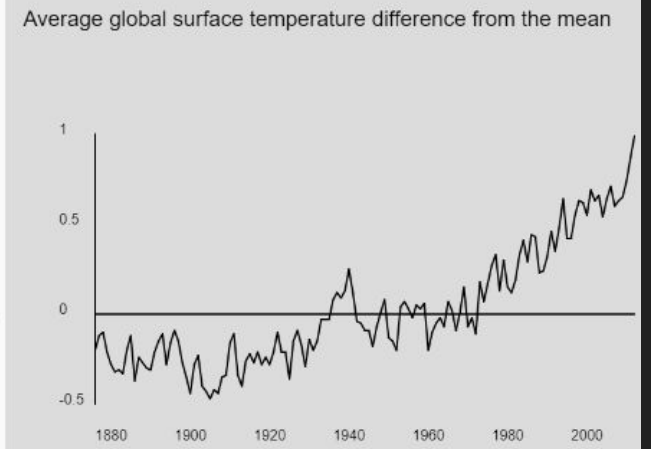
sketch.js Saved: 10 days ago Preview

```
let data;

function preload(){
  data = loadTable("GSTemp.csv","csv","header")

}

function setup() {
  createCanvas(400, 400);
  background(220);
  let numRows = data.getRowCount();
  let year = data.getColumn('Year')
  let tempDiff = data.getColumn('Difference from mean')
  let yearScaled = []
  let tempScaled = []
  for(let i=0; i<year.length; i++){
    yearScaled.push(map(year[i],1880,2016,50,350))
    tempScaled.push(map(tempDiff[i],-0.5,1,250,100))
  }
  line(50,200,350,200)
```



Console Clear

▶ *(137) [350, 347.79411764705884, 345.5882352941177, 343.3823529411 7646, 341.1764705882353, 338.97058823529414, 336.7647058823529, 33*