

Dataset # 1: McDonalds waiting time in secs:

83,90,91,100,101,107,113,117,117,119,123,127,127,127,130,133,135,138,139,140,143,144,144,148,150,151,153,153, 154,155,163, 167,169,169,171,184, 186, 187,190,196,197,197,200, 206,209,252, 254,255,281,308.

Frequency table:

Time (secs)	Frequency
75-124	11
125-174	24
175-224	10
225-274	3
275-324	2

Relative frequency table:

Time (secs)	Frequency	Relative freq.
75-124	11	0.22
125-174	24	0.48
175-224	10	0.20
225-274	3	0.06
275-324	2	0.04
Total	50	

Cumulative frequency table:

Time (secs)	Cumulative freq.
Less than 125	11
Less than 175	35
Less than 225	45
Less than 275	48
Less than 325	50

What are the class limits, the width, midpoint and boundaries of the first class 75 – 124 ?

\*Class limits: lower limit, 75; upper limit, 124

\*Class width: difference between two consecutive class lower limits;  $125-75 = 50$ .

\*Class midpoint: value in the middle:  $\frac{75+124}{2} = 99.5$

\*Class boundaries; values that separate the classes: 74.5 and 124.5

Dataset #2: Heights of 40 human males in cm:

187,171,181,180,178,171,174,177,172,178,182,187,176,179,190,185,192,184,182,178,187,173,185,184,184,183,185,197,202,181,181,191,178,187,185,186,174,174,182,195.

Frequency table:

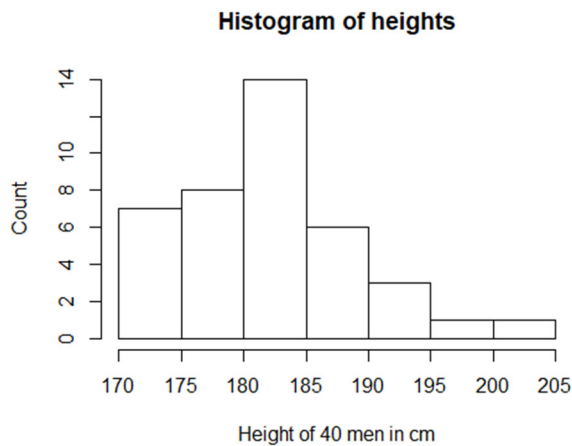
Height (cm)	Frq (count)
170-174	7
175-179	8
180-184	14
185-189	6
190-194	3
195-199	1
200-205	1

**Bar plot for Categorical data:** Survey: what is your favorite color:

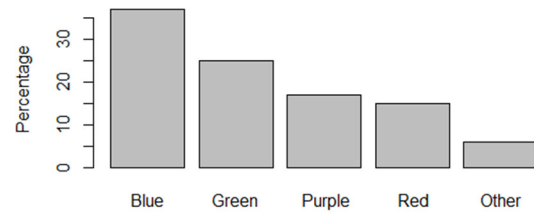
Colors	%
Blue	37
Green	25
Purple	17
Red	15
Other	6

Barplot: a gap in between bars. Categorical or discrete variables:

**Histograms:** a bar plot, no gaps. Visually displays the shape of the distribution of the data.



**Survey of favorite color**



Although histograms and bar charts use a column based display, they serve different purposes. A bar graph is used to compare discrete or categorical variables in a graphical format whereas a histogram depicts the frequency distribution of variables in a dataset.

**Stem-leaf-plot:** a Stem and Leaf Plot is a special table where each data value is split into a "stem" (the first digit or digits) and a "leaf" (usually the last digit).

Dataset (two digits numbers): 12, 23, 19, 16, 10, 17, 15, 25, 21, 12, 30, 32, 45.

The decimal point is 1 digit(s) to the right of the |

```

1 | 0225679
2 | 135
3 | 02
4 | 5
    
```

**Stem-leaf-plot** of Heights of 40 human males in cm:

```

17 | 11234446788889
18 | 01112223444555567777
19 | 01257
20 | 2
    
```