

decksh reference



Keywords

Structure Text

deck
edeck
slide
eslide
canvas
include
grid
text
ctext
etext
rtext
arctext
textblock
textfile
textcode

Lists

list
blist
nlist
clist
li
elist

Graphics

acircle
arc
circle
curve
ellipse
hline
line
pill
polygon
rect
rrect
square
star
vline

Braces Arrows

lbrace
rbrace
ubrace
dbrace
arrow
crarrow
clarrow
cuarrow
cdarrow

Images

image
cimage

Charts

dchart
legend

Loop

for
efor

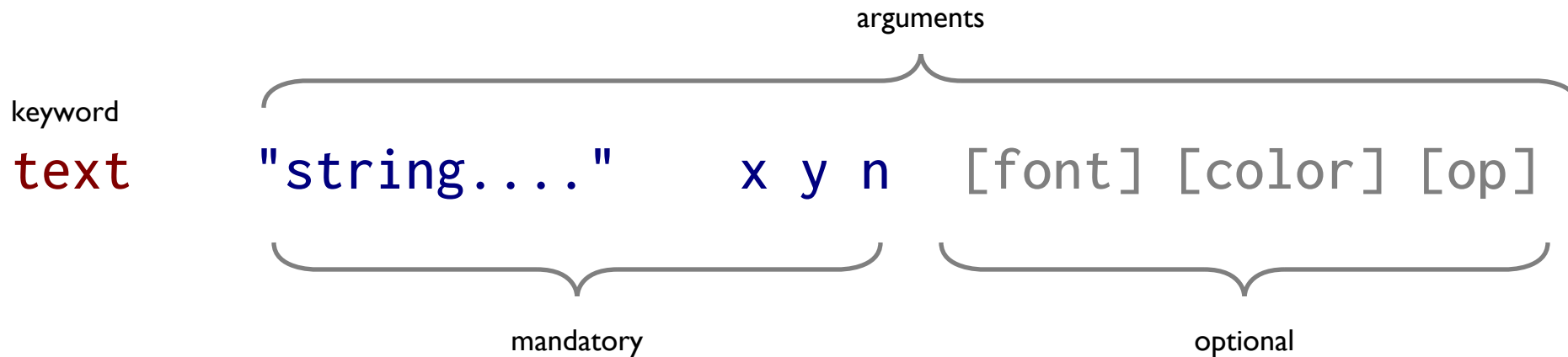
Assignments

polarx
polary
area
format
random
vmap

Data

data
edata

Keywords and arguments



text "hello, world" 80 50 2

hello, world

text "hello, world" 80 40 2 "serif"

hello, world

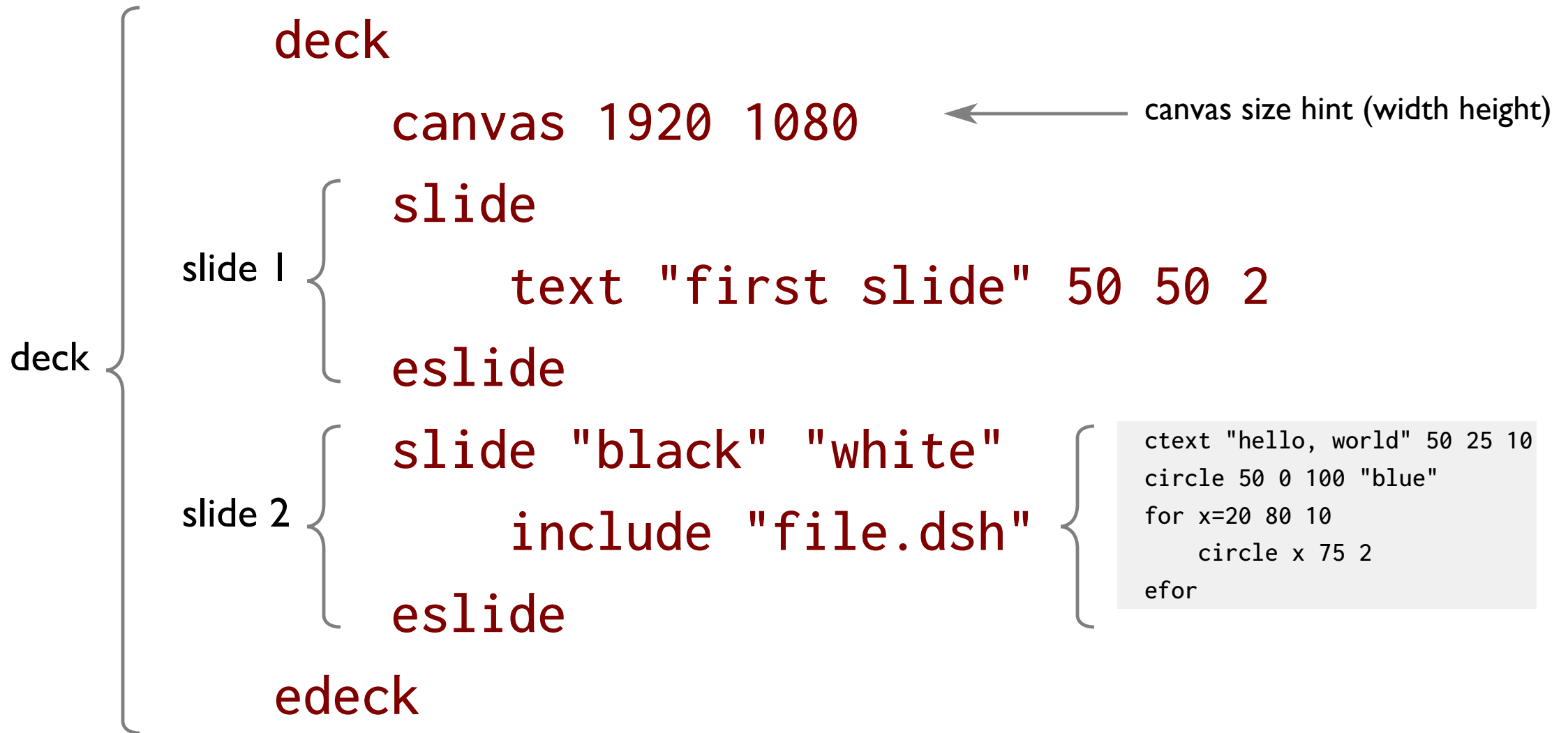
text "hello, world" 80 30 2 "serif" "red"

hello, world

text "hello, world" 80 20 2 "serif" "red" 50

hello, world

Structure



Object Index

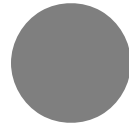
Text

hello, world

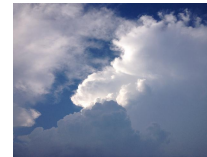
The quick brown
fox jumped over
the lazy dog

what's up, Doc?

Graphics



Images



sky

Lists

- First
- Second
- Third

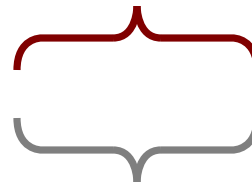
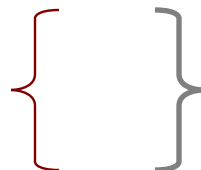
1. First
2. Second
3. Third

- First
Second
Third

Arrows



Braces



Textual Elements

| | | |
|----------------|------------------|---|
| Left-aligned | text | "..." x y fontsize [font] [color] [op] [link] |
| Centered | ctext | "..." x y fontsize [font] [color] [op] [link] |
| End-aligned | etext | "..." x y fontsize [font] [color] [op] [link] |
| Rotated | rtext | "..." x y angle fontsize [font] [color] [op] [link] |
| Text on an arc | arctext | "..." x y rad a1 a2 fontsize [font] [color] [op] [link] |
| Block text | textblock | "..." x y w fontsize [font] [color] [op] [link] |
| File contents | textfile | "file" x y fontsize [font] [color] [op] [spacing] |
| Code listing | textcode | "file" x y w fontsize [color] |

hello, world
(x,y)

```
text "... " x y fontsize [font] [color] [op] [link]
```

abc

```
text "abc" 20 20 4
```

abc

```
text "abc" 75 20 7 "mono" "maroon"
```

hello, world

(x,y)

```
ctext "... " x y fontsize [font] [color] [op] [link]
```

abc

```
ctext "abc" 20 20 4
```

abc

```
ctext "abc" 80 20 7 "mono" "maroon"
```


hello, world.

(x,y)

```
etext "... " x y fontsize [font] [color] [op] [link]
```

abc

```
etext "abc" 20 20 4
```

abc

```
etext "abc" 80 20 7 "mono" "maroon"
```

hello, world

(x,y)

`rtext "... " x y angle fontsize [font] [color] [op] [link]`

abc

`ctext 20 20 30 3`

abc

`ctext 50 20 90 5`

abc

`ctext 80 20 270 4 "sans" "maroon"`

a1 hello there world a2
(x,y)

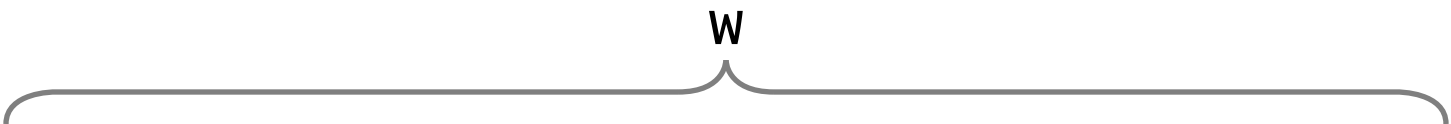
```
arctext "... " x y radius a1 a2 fontsize [font] [color] [op]
```

What is up

This is curvy

```
arctext "What is up" 25 20 10 180 90 3 "mono"
```

```
arctext "This is curvy" 75 30 10 180 360 3 "mono"
```

(x, y)  “Where justice is denied, where poverty is enforced,
where ignorance prevails, and where any one class
is made to feel that society is an organized conspiracy
to oppress, rob and degrade them, neither persons
nor property will be safe.”

`textblock "... " x y w fontsize [font] [color] [op]`

“Where justice is denied, where poverty is enforced,
where ignorance prevails, and where any one class
is made to feel that society is an organized conspiracy
to oppress, rob and degrade them, neither persons
nor property will be safe.”

`textblock "... " 10 35 30 2`

“Where justice is denied,
where poverty is enforced,
where ignorance prevails,
and where any one class is
made to feel that society
is an organized conspiracy
to oppress, rob and degrade
them, neither persons nor
property will be safe.”

`textblock "... " 50 35 10 1 "sans" "maroon"`

(x,y) This is the contents
of a file. it has lines of text.
Reading is fundamental.

```
textfile "filename" x y fontsize [font] [color] [op]
```

This is the contents
of a file. it has lines of text.
Reading is fundamental.

```
textfile "example.txt" 10 35 2
```

```
package main
```

```
import "fmt"
```

```
func main() {
```

```
    fmt.Println("hello, world")
```

```
}
```

```
textfile "hw.go" 55 35 1.6 "mono" "maroon"
```

(x,y)

W

```
package main

import "fmt"

func main() {
    fmt.Println("hello, world")
}
```

textcode "filename" x y w fontsize [color]

```
package main

import "fmt"

func main() {
    fmt.Println("hello, world")
}
```

textcode "hw.go" 10 35 25 1.0

```
package main

import "fmt"

func main() {
    fmt.Println("hello, world")
}
```

textcode "hw.go" 55 35 40 1.6 "maroon"

Graphical Elements

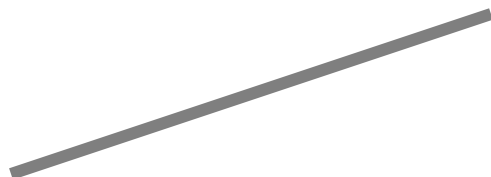
| | | |
|-------------------|----------------|---|
| Line | line | x1 y1 x2 y2 lw [color] [op] |
| Horizontal line | hline | x y w [lw] [color] [op] |
| Vertical line | vline | x y h [lw] [color] [op] |
| Elliptical arc | arc | x y w h a1 a2 [lw] [color] [op] |
| Quadratic Bezier | curve | bx by cx cy ex ey [lw] [color] [op] |
| Circle | circle | x y w [color] [op] |
| Area circle | acircle | x y area [color] [op] |
| Ellipse | ellipse | x y w h [color] [op] |
| Square | square | x y w [color] [op] |
| Rectangle | rect | x y w h [color] [op] |
| Rounded rectangle | rrect | x y w h radius [color] |
| Pill shape | pill | x y w h [color] |
| Polygon | polygon | "x1 x2...xn" "y1 y2...yn" [lw] [color] [op] |
| N-sided star | star | x y sides inner outer [color] [op] |

`lw {`  `}`
`(x1,y1)` `(x2,y2)`

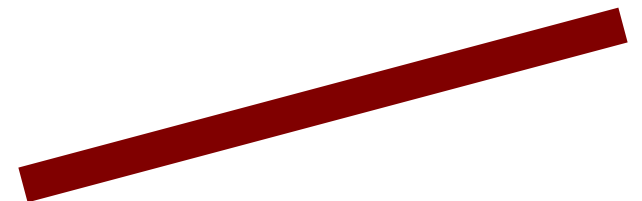
`line x1 y1 x2 y2 lw [color] [op]`



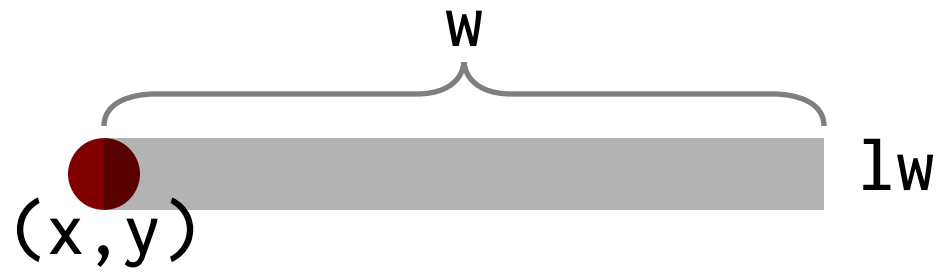
`line 10 20 30 20`



`line 40 20 60 30 0.5`



`line 70 20 95 30 1.5 "maroon"`



`hline x y w [lw] [color] [op]`



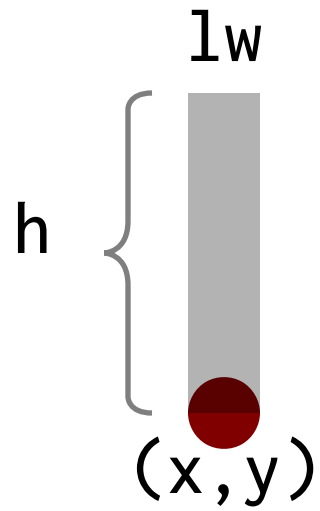
`hline 15 20 10`



`hline 40 20 20 1`



`hline 70 20 20 5 "maroon" 20`



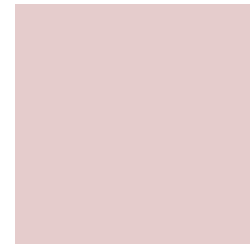
`vline x y h [lw] [color] [op]`



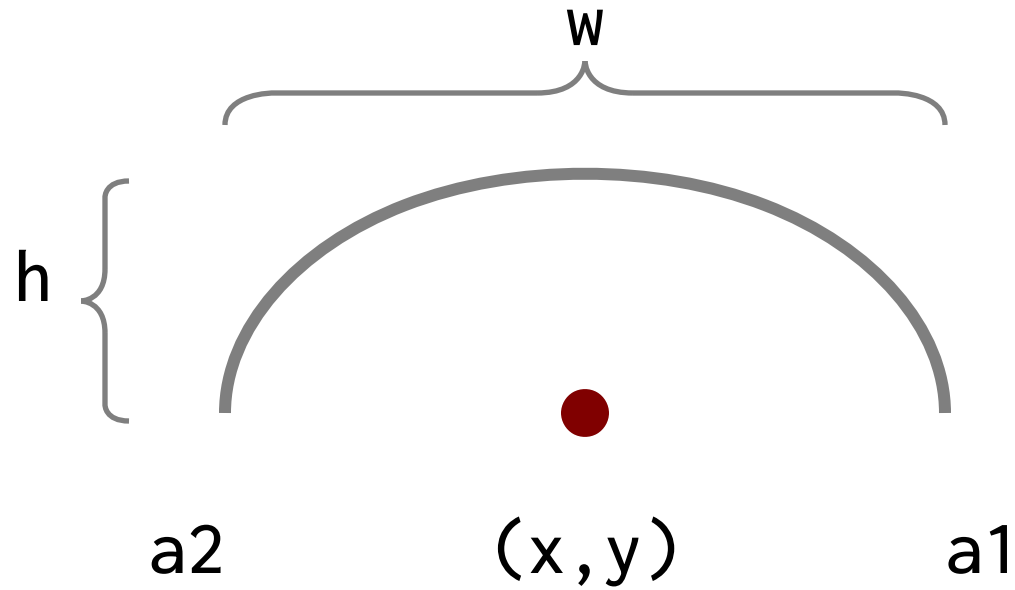
`vline 20 20 15`



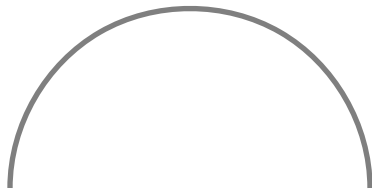
`vline 50 20 15 2`



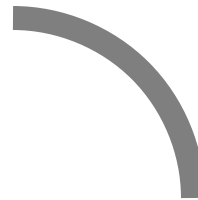
`vline 80 20 15 10 "maroon" 20`



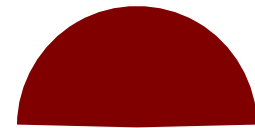
`arc x y w h a1 a2 [lw] [color] [op]`



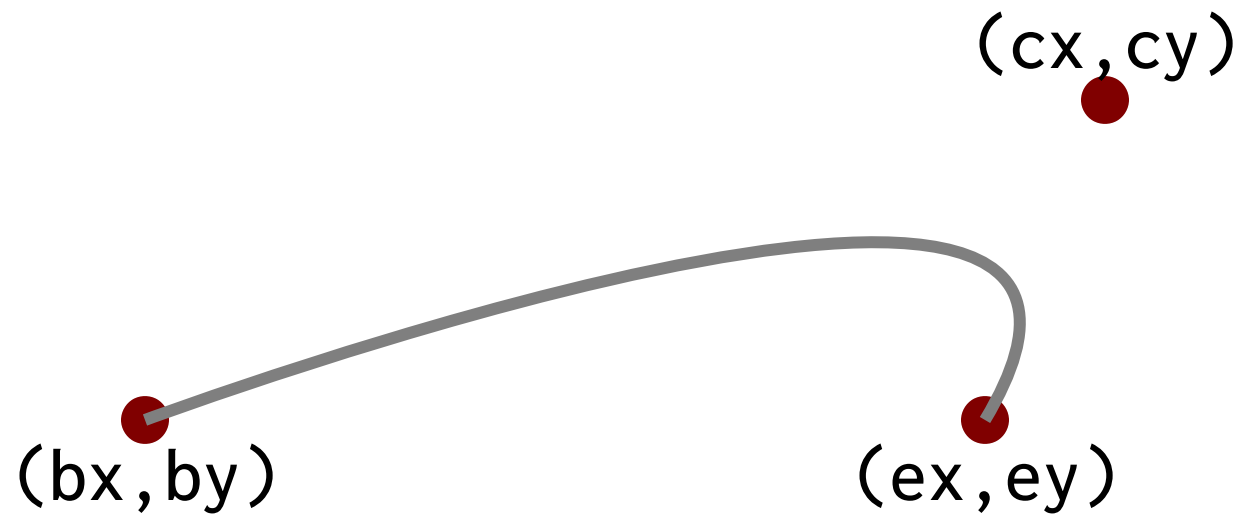
`arc 20 20 15 15 0 180`



`arc 50 20 15 15 0 90 1`



`arc 80 20 5 5 0 180 5 "maroon"`



`curve bx by cx cy ex ey [lw] [color] [op]`



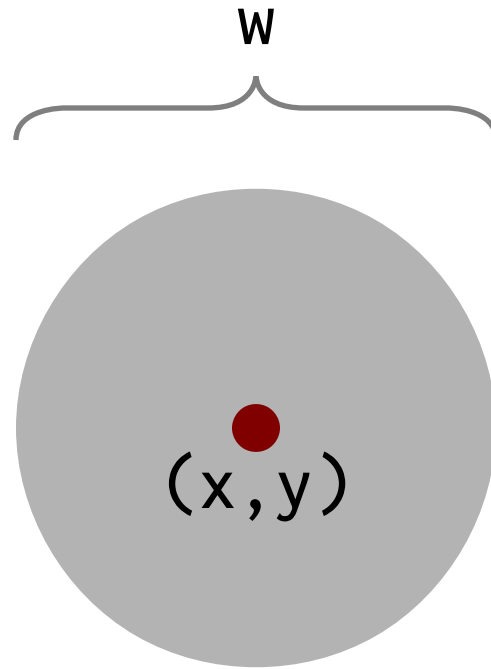
`curve 15 20 25 30 30 25`



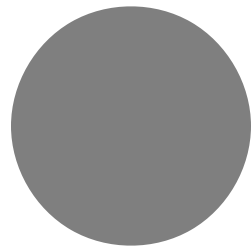
`curve 15 20 25 30 30 25`



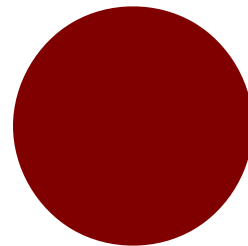
`curve 70 20 70 30 90 25 0.5 "maroon"`



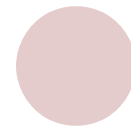
`circle x y w [color] [op]`



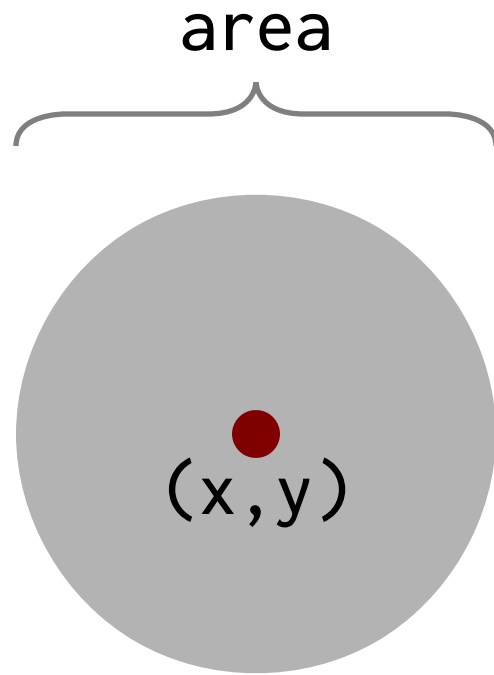
`circle 20 20 10`



`circle 50 20 10 "maroon"`



`circle 80 20 5 "maroon" 20`



`acircle x y area [color] [op]`



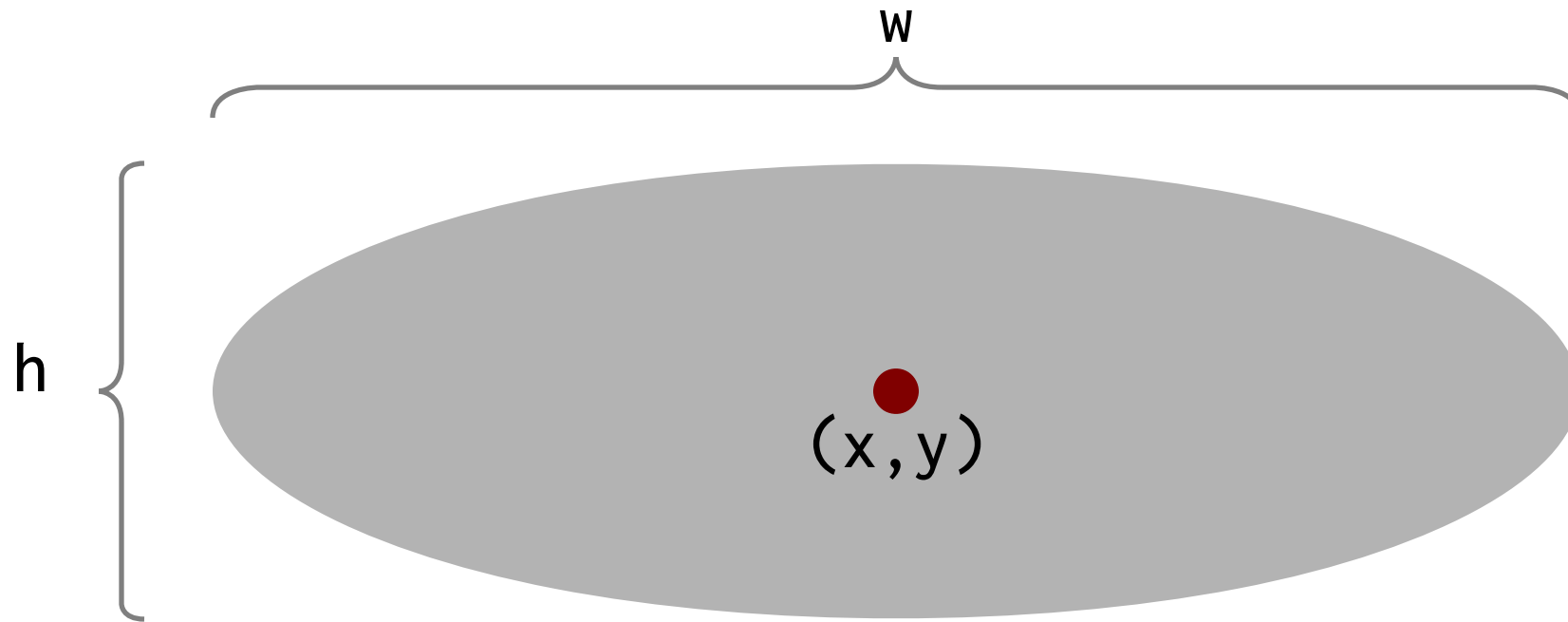
`acircle 20 20 10`



`acircle 50 20 10 "maroon"`



`acircle 80 20 5 "maroon" 20`



`ellipse x y w h [color] [op]`



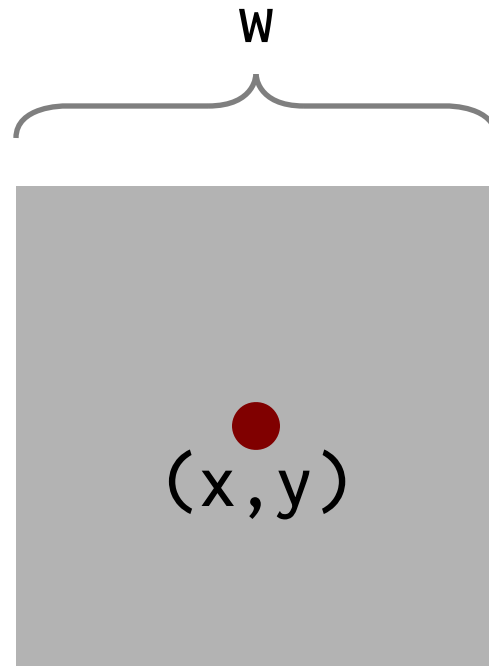
`ellipse 20 20 10 5`



`ellipse 50 20 10 5 "maroon"`



`ellipse 80 20 5 10 "maroon" 20`



square x y w [color] [op]



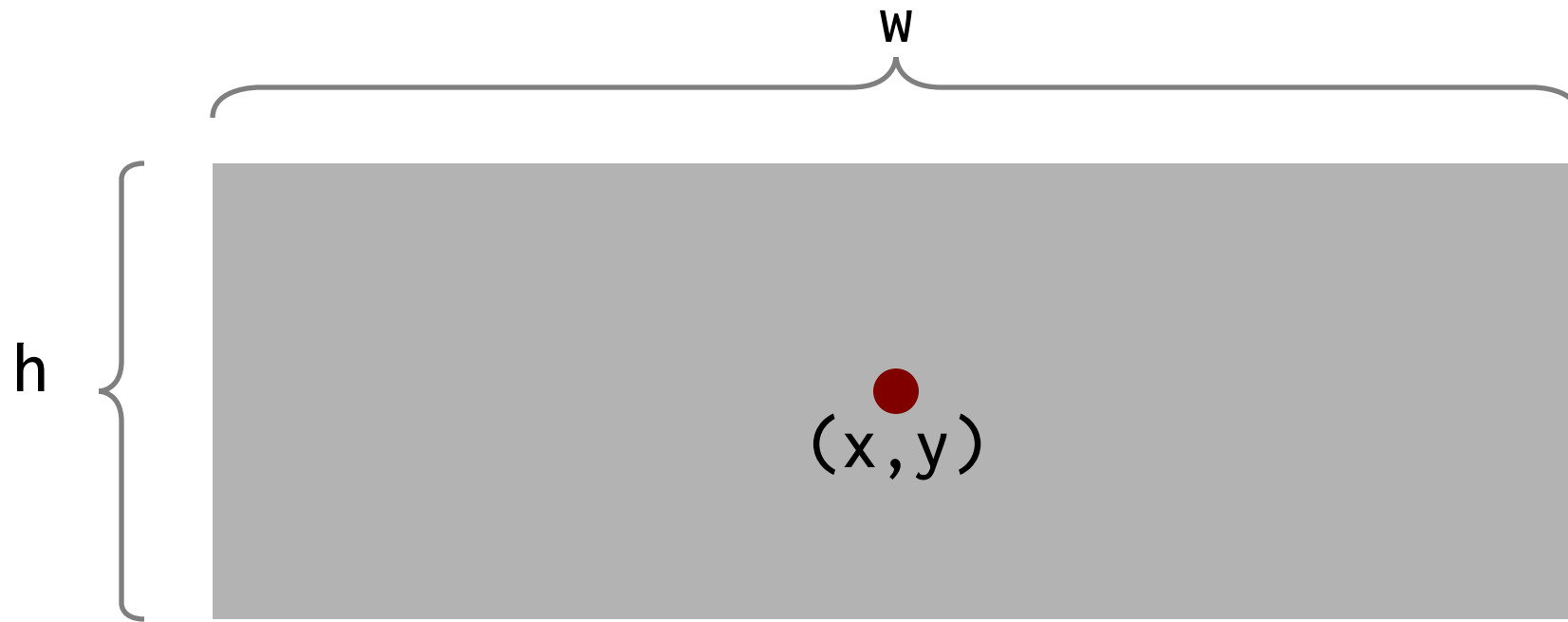
square 20 20 10



square 50 20 10 "maroon"



square 80 20 5 "maroon" 20



`rect x y w h [color] [op]`



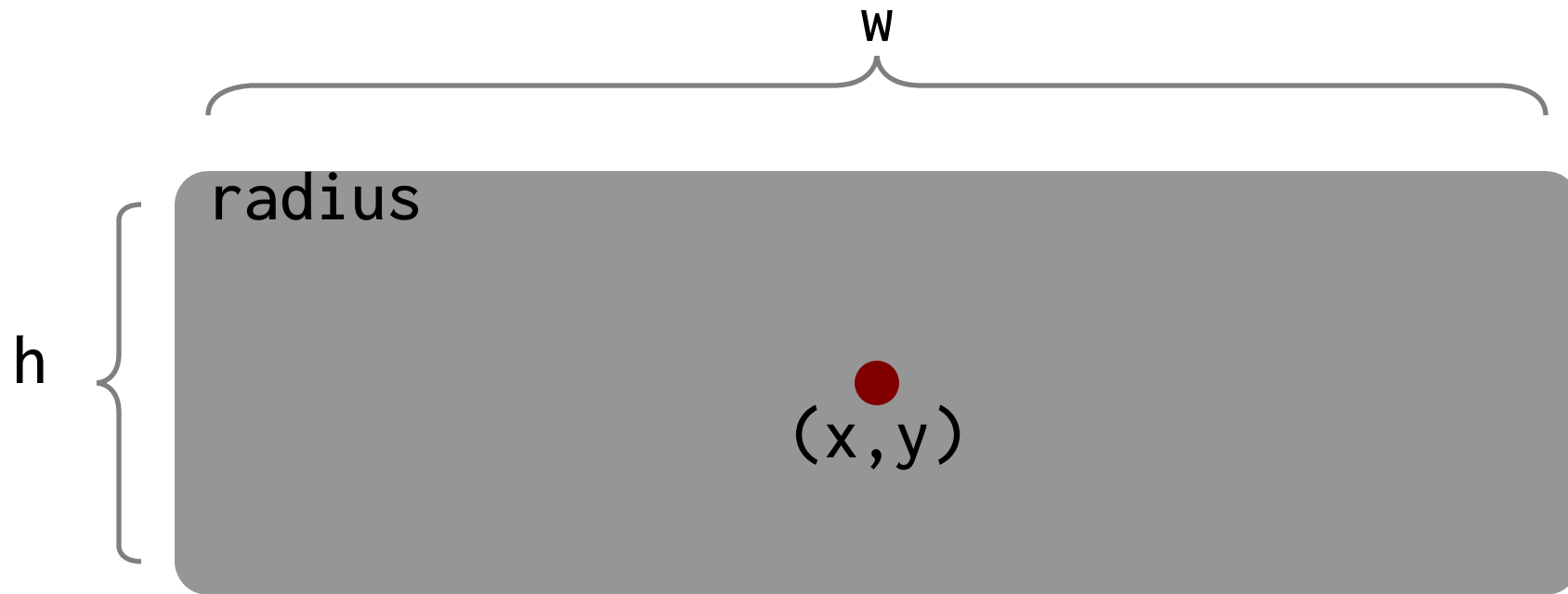
`rect 20 20 10 5`



`rect 50 20 10 5 "maroon"`



`rect 80 20 5 10 "maroon" 20`



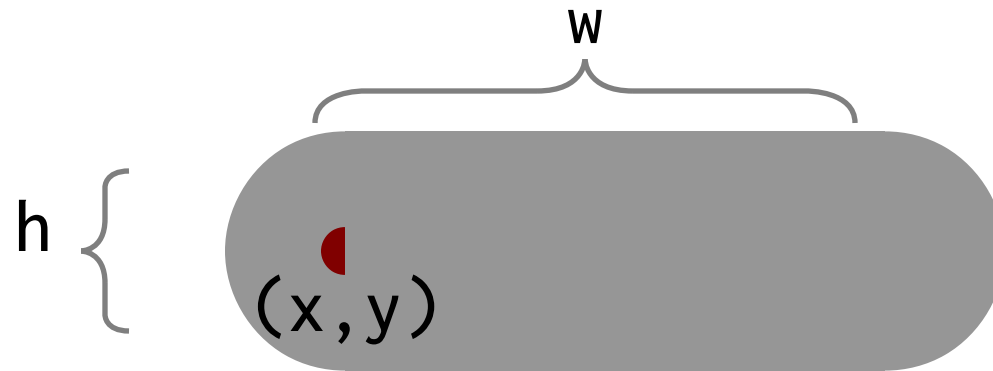
`rrect x y w h radius [color] [op]`



`rrect 20 20 10 5 1`



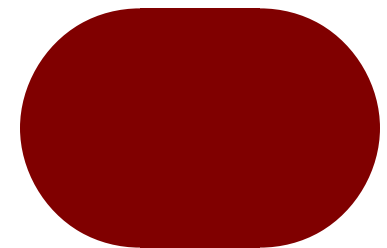
`rrect 80 20 5 10 1 "maroon"`



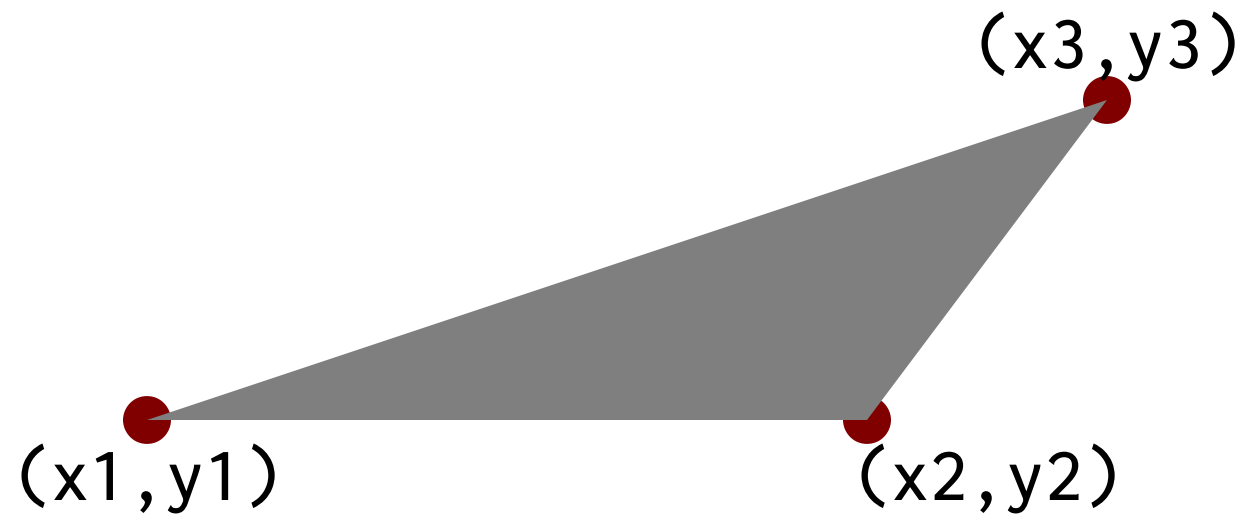
`pill x y w h [color]`



`pill 20 20 10 5`



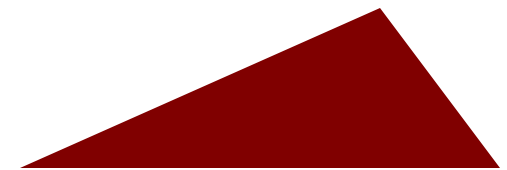
`pill 80 20 5 10 "maroon"`



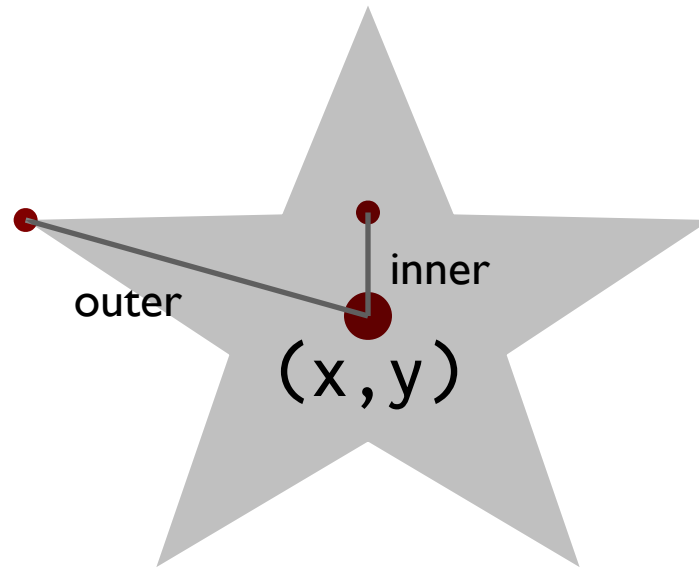
`polygon "x1 x2...xn" "y1 y2...yn" [color] [op]`



`polygon "10 25 20" "20 30 20"`



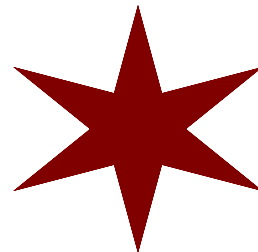
`polygon "70 85 90" "20 30 20" "maroon"`



`star x y sides inner outer [color] [op]`



`star 20 20 5 2 6`



`star 50 20 12 2 5 "maroon"`



`star 80 ey 24 2 8 "maroon" 20`

Images

| | | |
|-----------------|---------------------|--|
| Image | <code>image</code> | <code>"file" x y w h [scale] [link]</code> |
| Captioned image | <code>cimage</code> | <code>"file" "caption" x y w h [scale] [link]</code> |

Note: the scale value is a percentage from 1-100

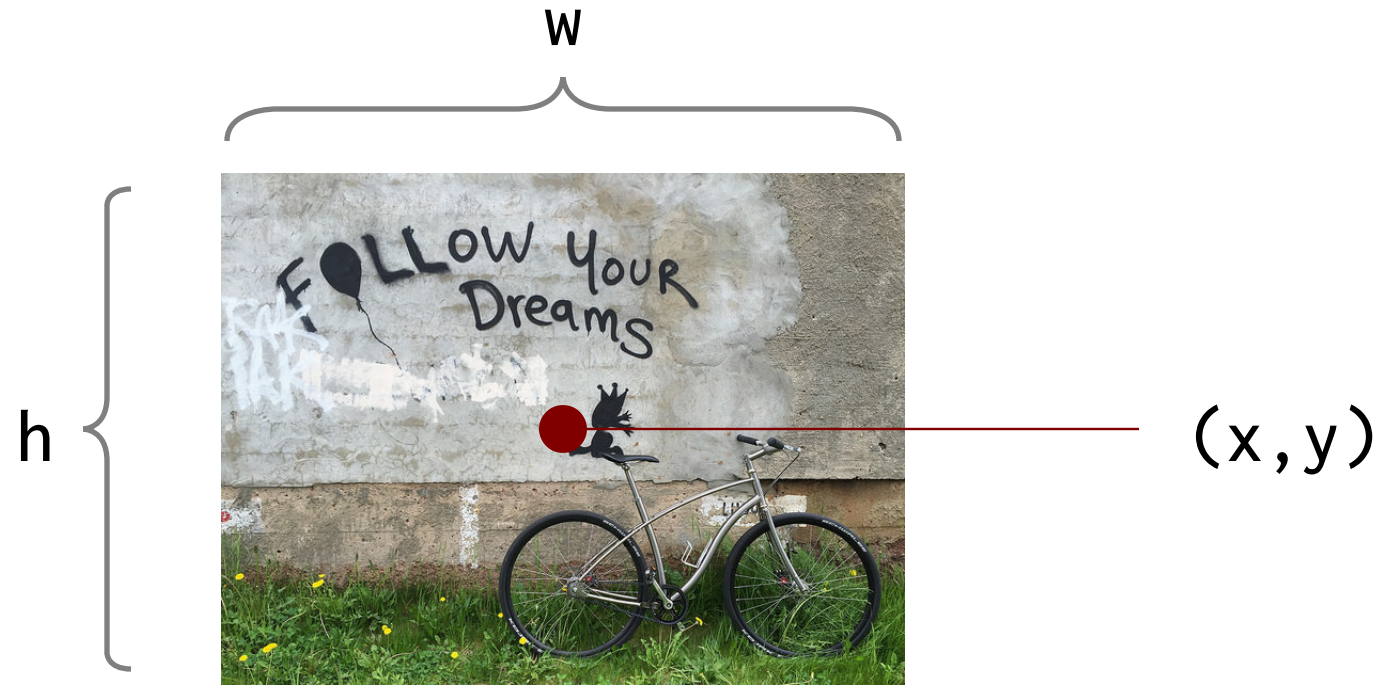


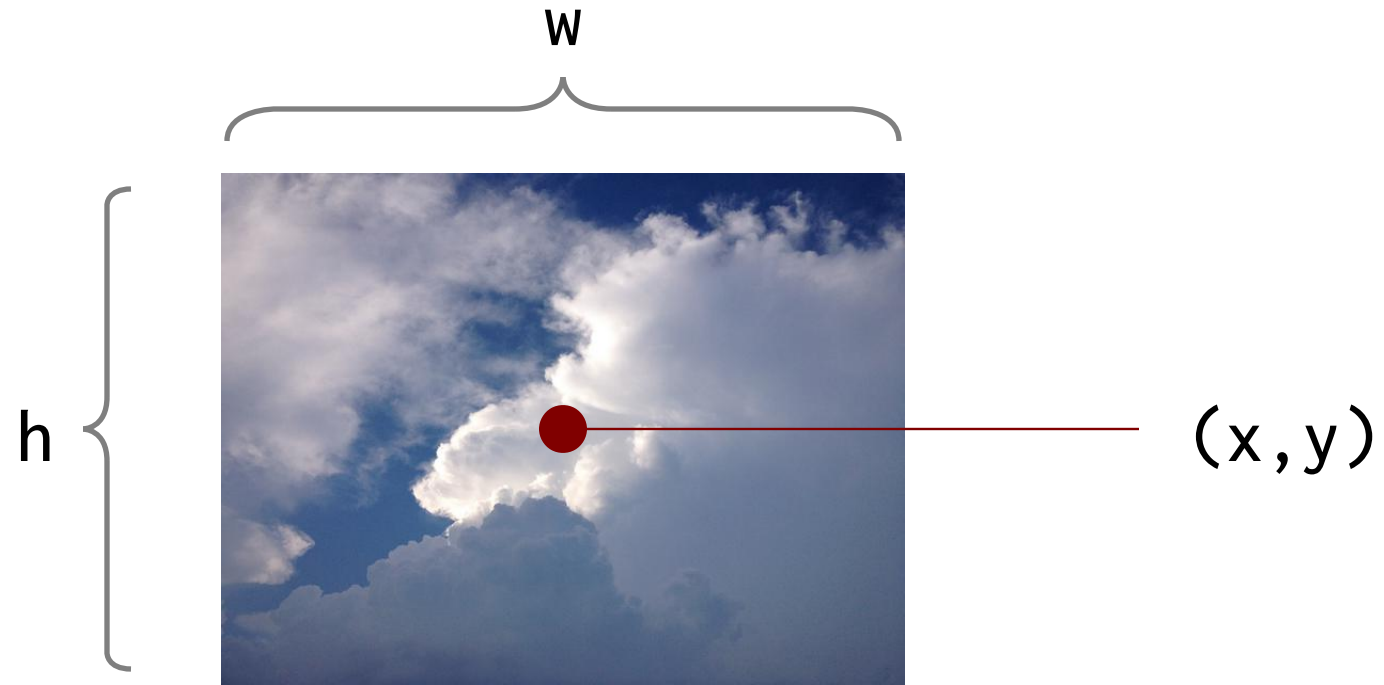
image "file" x y w h [scale] [link]



image "follow.jpg" 20 25 640 480 10

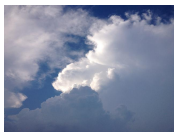


image "follow.jpg" 75 25 640 480 30



sky

`cimage "file" "caption" x y w h [scale] [link] [capsize]`



sky



sky

`cimage "cloudy.jpg" "sky" 20 25 640 480 10`

`cimage "cloudy.jpg" "sky" 75 25 640 480 30 "" 1.5`

Lists

| | | |
|---------------|--------------------|---|
| Plain list | <code>list</code> | <code>x y fontsize [font] [color] [op] [spacing]</code> |
| Bullet list | <code>blist</code> | <code>x y fontsize [font] [color] [op] [spacing]</code> |
| Numbered list | <code>nlist</code> | <code>x y fontsize [font] [color] [op] [spacing]</code> |
| Centered list | <code>clist</code> | <code>x y fontsize [font] [color] [op] [spacing]</code> |

```
list
(x,y) li "first"
      li "second"
      li "third"
elist
```

`list x y fontsize [font] [color] [op] [spacing]`

```
list 20 30 2.5 one
      li "one"
      li "two" two
      li "three" three
elist
```

```
list 85 30 4 "serif" "maroon" 100 1.0
      li "one"
      li "two"
      li "three"
elist
```

one
two
three

```
    blist
(x,y)  li "first"
        li "second"
        li "third"
    elist
```

`blist x y fontsize [font] [color] [op] [spacing]`

```
blist 20 30 2.5 ● one
    li "one"
    li "two"    ● two
    li "three"  ● three
elist
```

```
blist 85 30 4 "serif" "maroon" 100 1.0
    li "one"
    li "two"
    li "three"
elist
```

● *one*
● *two*
● *three*

```
nlist
(x,y) li "first"
      li "second"
      li "third"
elist
```

`nlist x y fontsize [font] [color] [op] [spacing]`

```
nlist 20 30 2.5 1. one
      li "one"
      li "two"   2. two
      li "three" 3. three
elist
```

```
nlist 85 30 4 "serif" "maroon" 100 1.0
      li "one"
      li "two"
      li "three"
elist
```

1. one
2. two
3. three

```
clist
(x,y) li "first"
      li "second"
      li "third"
elist
```

`clist x y fontsize [font] [color] [op] [spacing]`

```
clist 35 30 2.5
  li "first one"
  li "next"
  li "and last"
elist
```

first one
next
and last

```
clist 90 30 4 "serif" "maroon" 100 1.0
  li "first"
  li "next"
  li "and last"
elist
```

first
next
and last

Arrows

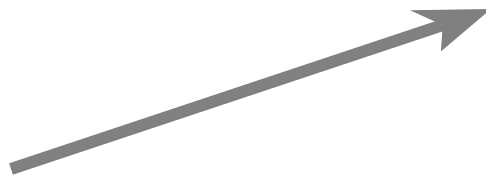
| | | |
|--------------|----------------------|--|
| Straight | <code>arrow</code> | <code>x1 y1 x2 y2 [lw] [aw] [ah] [color] [op]</code> |
| Left curved | <code>lcarrow</code> | <code>bx by cx cy ex ey [lw] [aw] [ah] [color] [op]</code> |
| Right curved | <code>rcarrow</code> | <code>bx by cx cy ex ey [lw] [aw] [ah] [color] [op]</code> |
| Up curved | <code>ucarrow</code> | <code>bx by cx cy ex ey [lw] [aw] [ah] [color] [op]</code> |
| Down curved | <code>dcarrow</code> | <code>bx by cx cy ex ey [lw] [aw] [ah] [color] [op]</code> |



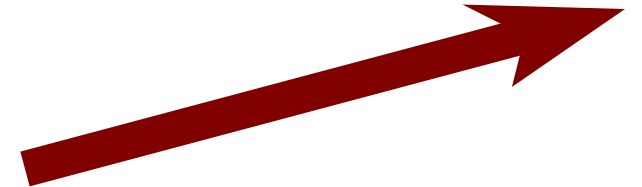
`arrow x1 y1 x2 y2 [lw] [aw] [ah] [color] [op]`



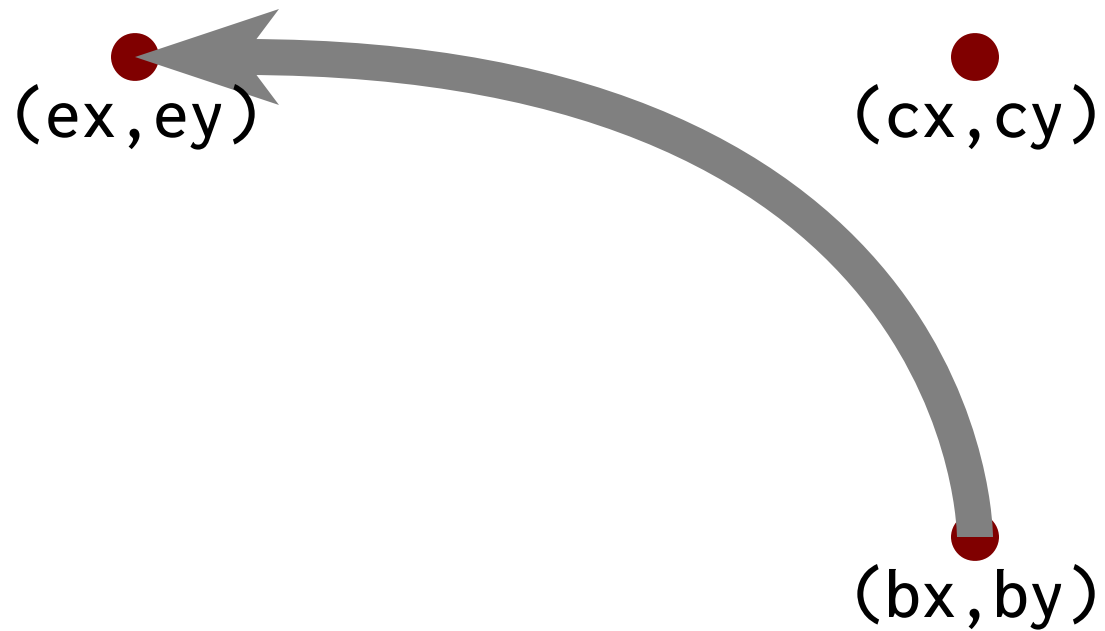
`arrow 10 20 30 20`



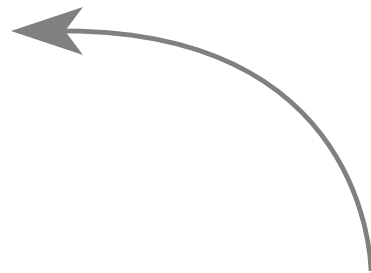
`arrow 40 20 60 30 0.5`



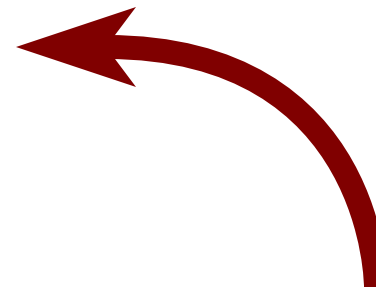
`arrow 70 20 95 30 1.5 6 6 "maroon"`



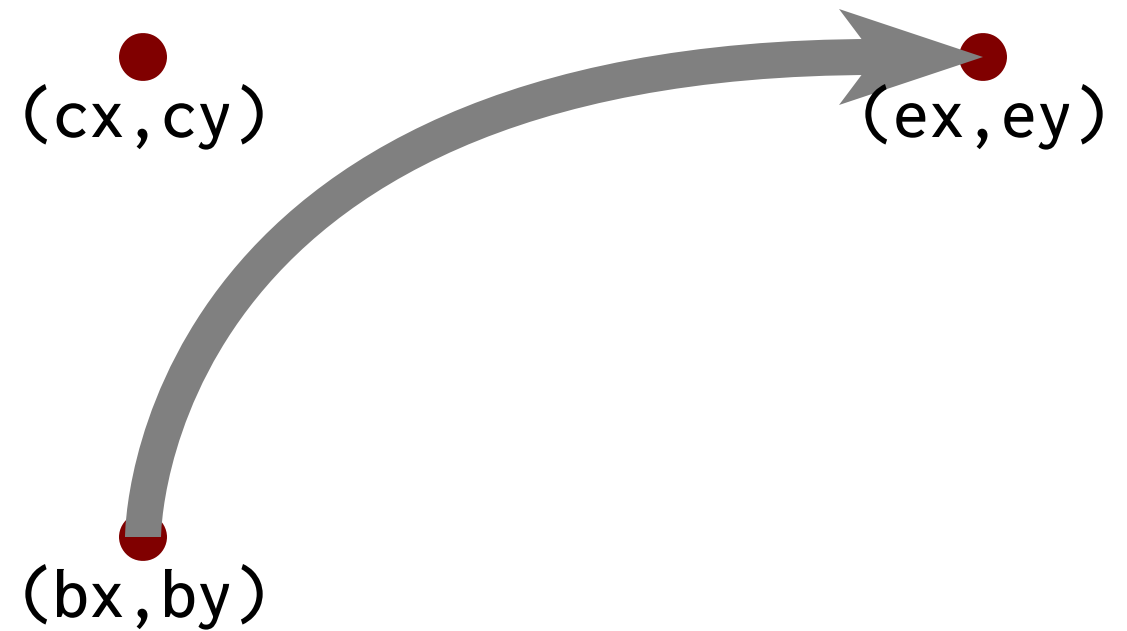
`lcarrow bx by cx cy ex ey [lw] [aw] [ah] [color] [op]`



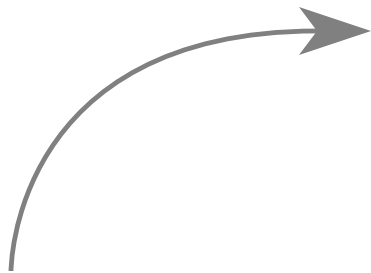
`lcarrow 30 20 30 35 15 35`



`lcarrow 70 20 70 35 55 35 1 5 5 "maroon"`



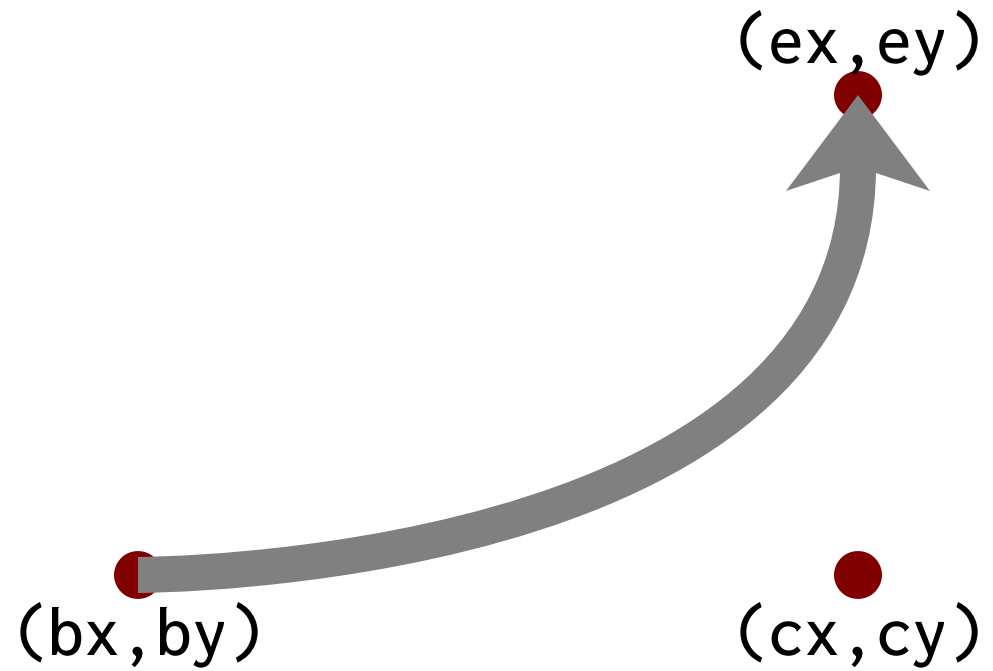
`rcarrow bx by cx cy ex ey [lw] [aw] [ah] [color] [op]`



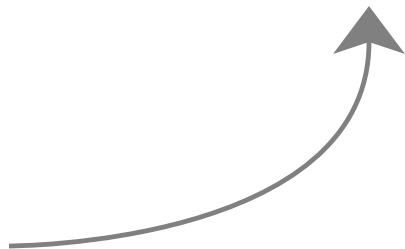
`rcarrow 15 20 15 35 30 35`



`rcarrow 50 20 50 35 70 35 1 5 5 "maroon"`



`ucarrow bx by cx cy ex ey [lw] [aw] [ah] [color] [op]`



`ucarrow 15 20 30 20 30 35`



`rcarrow 50 20 70 20 70 35 1 5 5 "maroon"`

(bx, by)

(cx, cy)

(ex, ey)

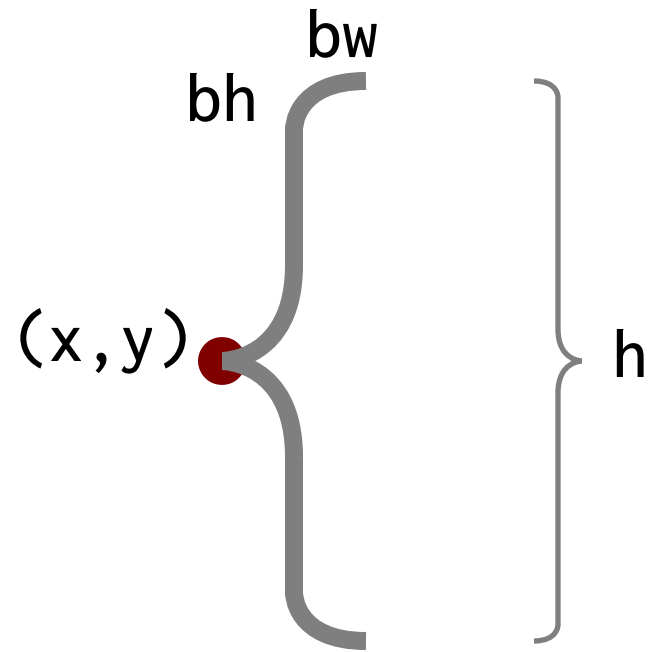
`dcarrow bx by cx cy ex ey [lw] [aw] [ah] [color] [op]`

`dcarrow 15 35 30 30 20`

`dcarrow 50 35 70 35 70 20 1 5 5 "maroon"`

Braces

| | | |
|-------------|---------------|---|
| Left brace | lbrace | <code>x y fontsize bw bh [lw] [color] [op]</code> |
| Right brace | rbrace | <code>x y fontsize bw bh [lw] [color] [op]</code> |
| Up brace | ubrace | <code>x y fontsize bw bh [lw] [color] [op]</code> |
| Down brace | dbrace | <code>x y fontsize bw bh [lw] [color] [op]</code> |



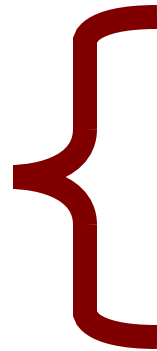
`lbrace x y h bw bh [lw] [color] [op]`



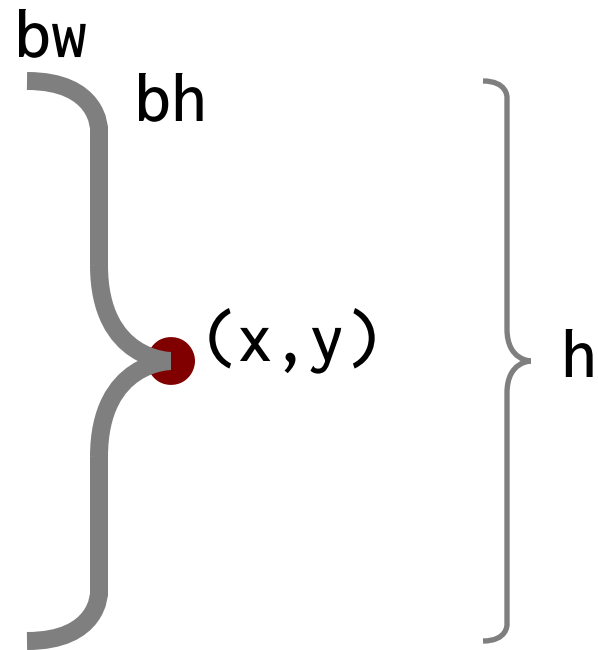
`lbrace 20 25 20 2 2`



`lbrace 50 25 20 4 4 1`



`lbrace 80 25 20 6 3 1 "maroon"`



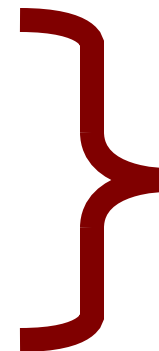
`rbrace x y h bw bh [lw] [color] [op]`



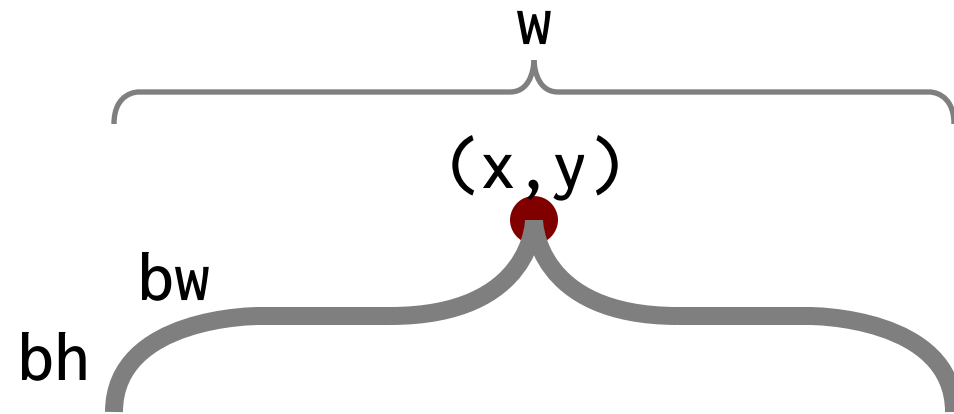
`rbrace 20 25 20 2 2`



`rbrace 50 25 20 4 4 1`



`rbrace 80 25 20 6 3 1 "maroon"`



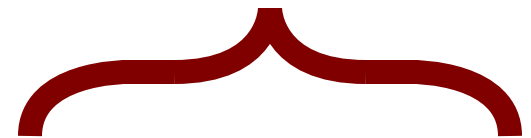
`ubrace x y w bw bh [lw] [color] [op]`



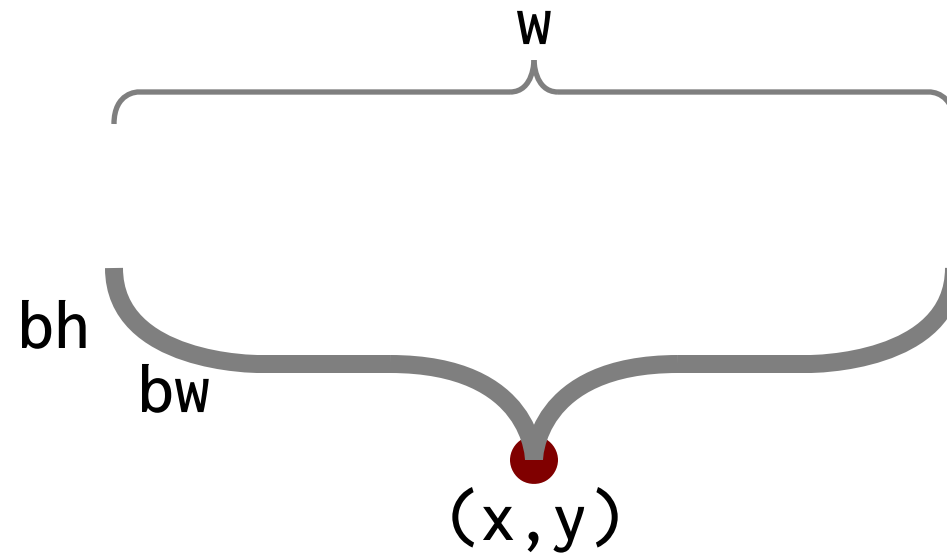
`ubrace 20 25 20 2 2`



`ubrace 50 25 20 4 4 1`



`ubrace 80 25 20 4 4 1 "maroon"`



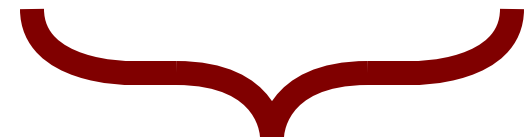
`dbrace x y w bw bh [lw] [color] [op]`



`dbrace 20 25 20 2 2`



`dbrace 50 25 20 4 4 1`



`dbrace 80 25 20 4 4 1 "maroon"`

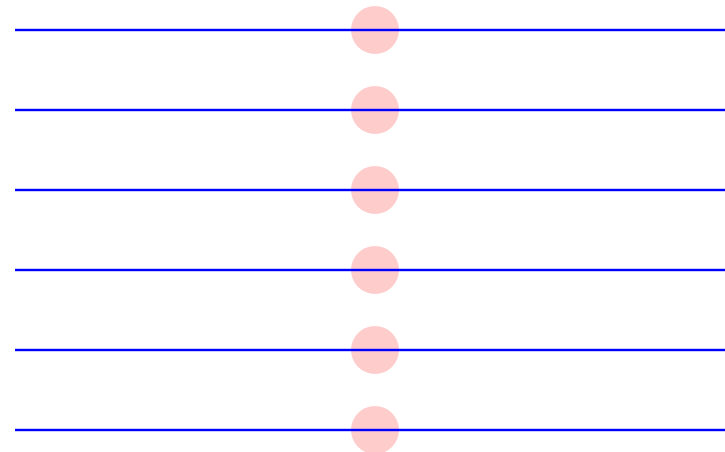
Loop, Assignments, Data and Grid

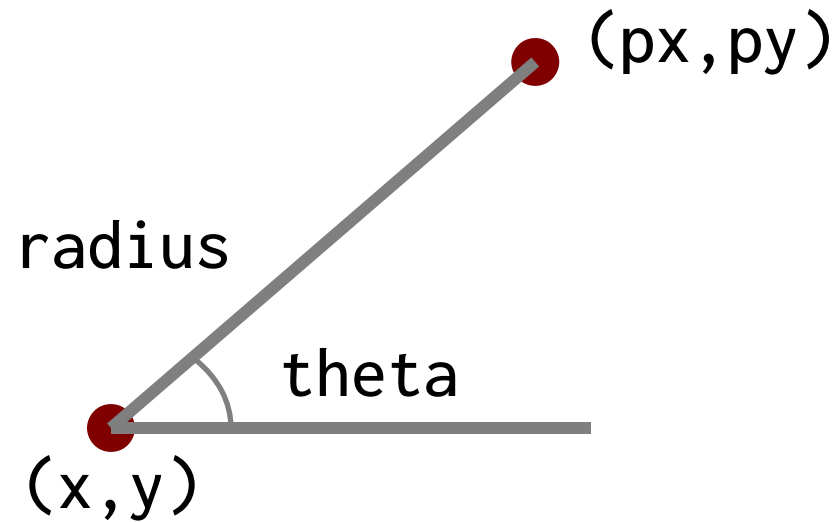
| | | |
|----------------------|---------------------------|---|
| Loop | <code>for v=</code> | <code>begin end [increment] ... efor</code> |
| Polar coordinate (x) | <code>x=polarx</code> | <code>x y radius angle</code> |
| Polar coordinate (y) | <code>y=polary</code> | <code>x y radius angle</code> |
| Area | <code>value=area</code> | <code>expression</code> |
| Formatted text | <code>value=format</code> | <code>fmt expression</code> |
| Random number | <code>value=random</code> | <code>min max</code> |
| Value mapping | <code>value=vmap</code> | <code>data min1 max1 min2 max2</code> |
| In-line data | <code>data</code> | <code>"file" ... edata</code> |
| Objects on a grid | <code>grid</code> | <code>grid "file" x y hspace vspace edge</code> |

```
for v=begin end [increment]  
...items to repeat using v  
efor
```

```
for v=begin end [increment]...efor
```

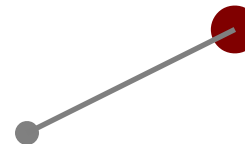
```
for v=10 35 5  
  hline 50 v 30 0.1 "blue"  
  circle 65 v 2 "red" 20  
efor
```





`px=polarx x y radius theta`
`py=polary x y radius theta`

```
cpx=60  
cpy=20  
px1=polarx cpx cpy 10 30  
py1=polary cpx cpy 10 30  
line cpx cpy px1 py1  
circle cpx cpy 1 "gray"  
circle px1 py1 2 "maroon"
```



v=123.45

a=area v



area



original value

value=area expression

m1=100

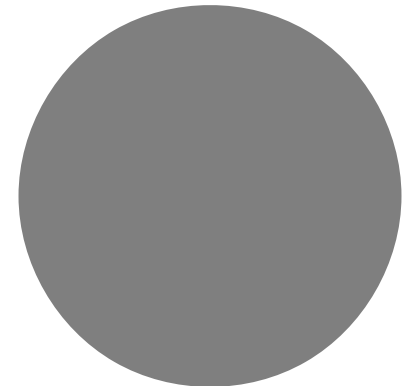
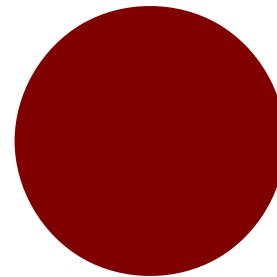
m2=200

a1=area m1

a2=area m2

circle 60 20 a1 "maroon"

circle 80 20 a2



x=3.14159

y=2.0

title=format "Value=%.2f" x*y
Value=6.28 format string expression

value=format fmt expression

v1=100.3

v2=200.234

title=format "%.2f Million (USD)" v1

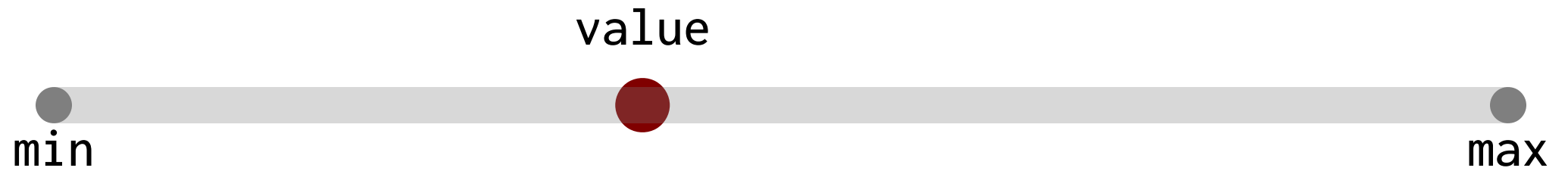
subtitle=format "Total value: %.2f" v1+v2

ctext title 80 30 4 "sans" "maroon"

ctext subtitle 80 20 3 "sans" "gray"

100.30 Million (USD)

Total value: 300.53



value=random min max



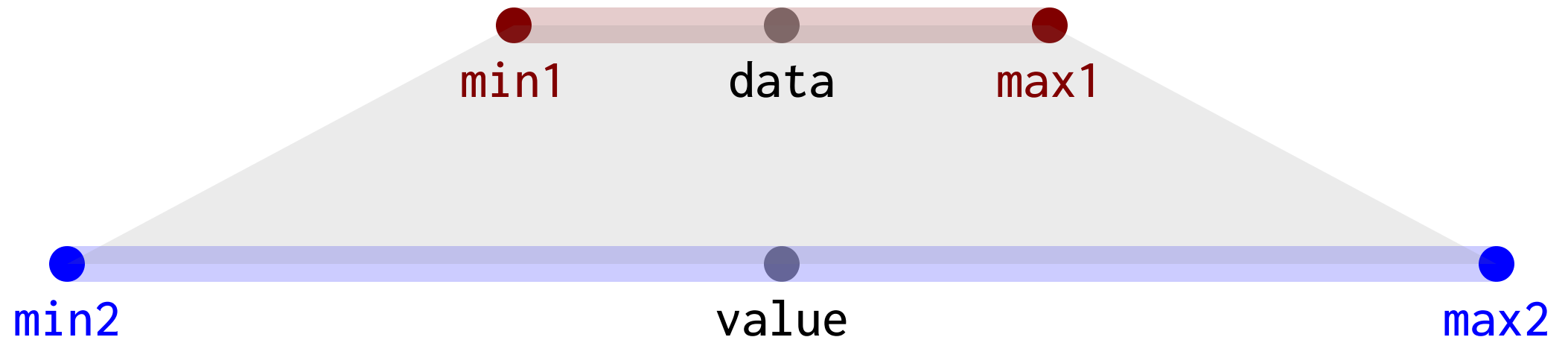
```
rx1=random 5 30  
ry1=random 15 35  
circle rx1 ry1 3 "maroon"
```



```
rx2=random 40 60  
ry2=random 15 35  
circle rx2 ry2 3 "green"
```



```
rx1=random 75 95  
ry1=random 15 35  
circle rx3 ry3 3 "blue"
```



`value=vmap data min1 max1 min2 max2`

```
yrmin=1776
yrmax=2021
smin=60
smax=90
vp=vmap 1945 yrmin yrmax smin smax
line  smin 20 smax 20 0.5 "gray" 20
circle smin 20 1
circle smax 20 1
circle vp 20 2 "maroon"
```



```
data "file.d" ← data file
first 20
second 100
third 200
edata
```

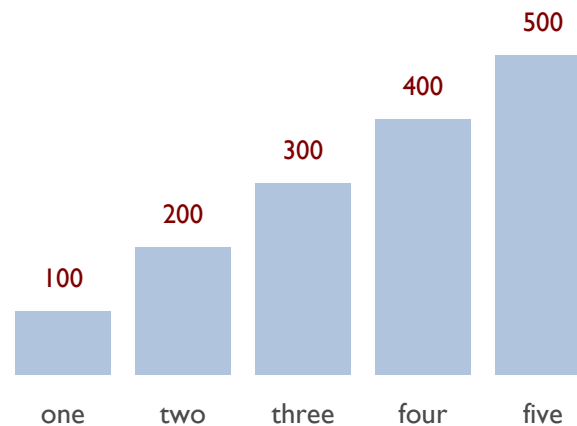
} data values

```
data "filename" ... edata
```

```
data "test.d"
  one 100
  two 200
  three 300
  four 400
  five 500
```

```
edata
```

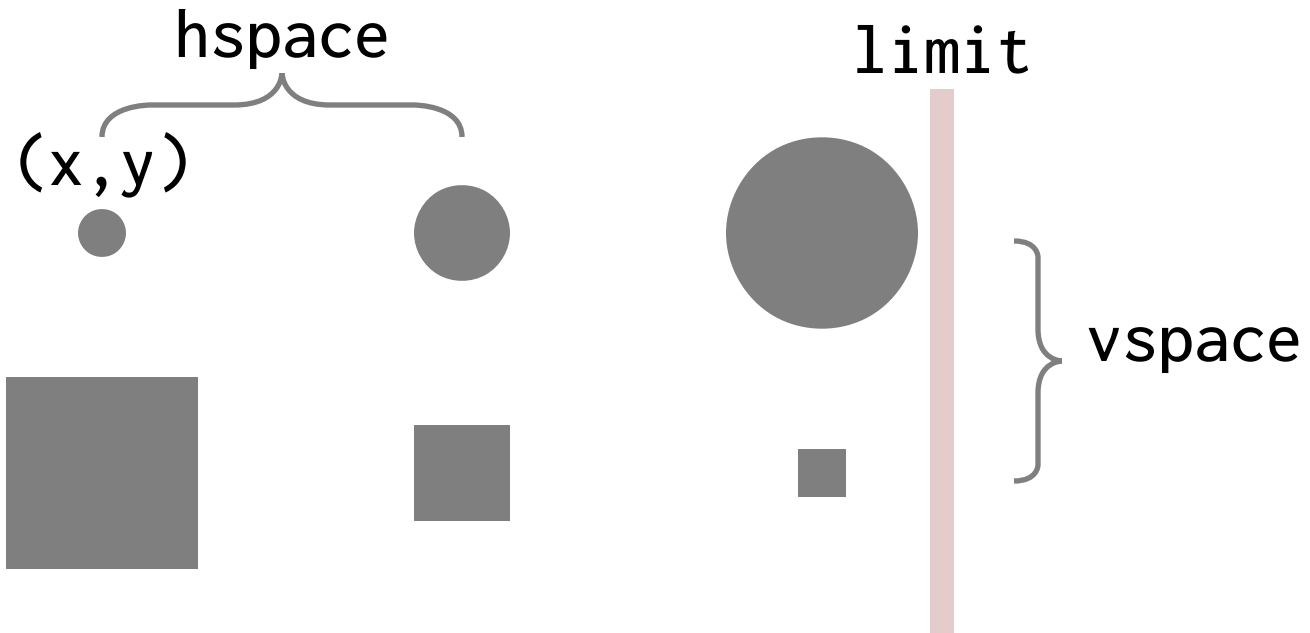
```
dchart -bar -left 50 -bottom 15 -right 70 -top 35 "test.d"
```



file

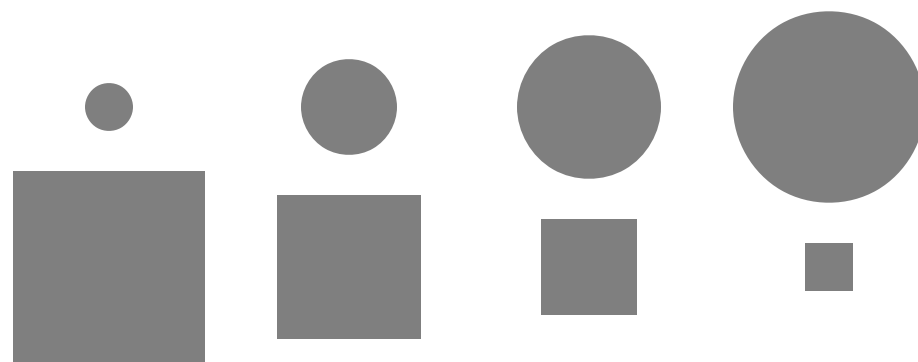


```
circle x y 2
circle x y 4
circle x y 8
square x y 8
square x y 4
square x y 2
```



grid "file" x y hspace vspace limit

```
circle x y 2
circle x y 4
circle x y 6
circle x y 8
square x y 8
square x y 6
square x y 4
square x y 2
```



grid "code/grid-ex.dsh" 35 33 10 10 65

Charts

Charts

`dchart`

options "file" (see next page)

Chart Legends

`legend`

"text" x y size font color

Chart Types

| | | |
|----------|-------|----------------------|
| -bar | true | bar chart |
| -wbar | false | word bar chart |
| -hbar | false | horizontal bar chart |
| -donut | false | donut chart |
| -dot | false | dot chart |
| -lego | false | lego chart |
| -line | false | line chart |
| -pgrid | false | proportional grid |
| -pmap | false | proportional map |
| -bowtie | false | bowtie chart |
| -fan | false | fan chart |
| -radial | false | radial chart |
| -scatter | false | scatter chart |
| -slope | false | slope chart |
| -vol | false | volume (area) chart |

Chart Elements

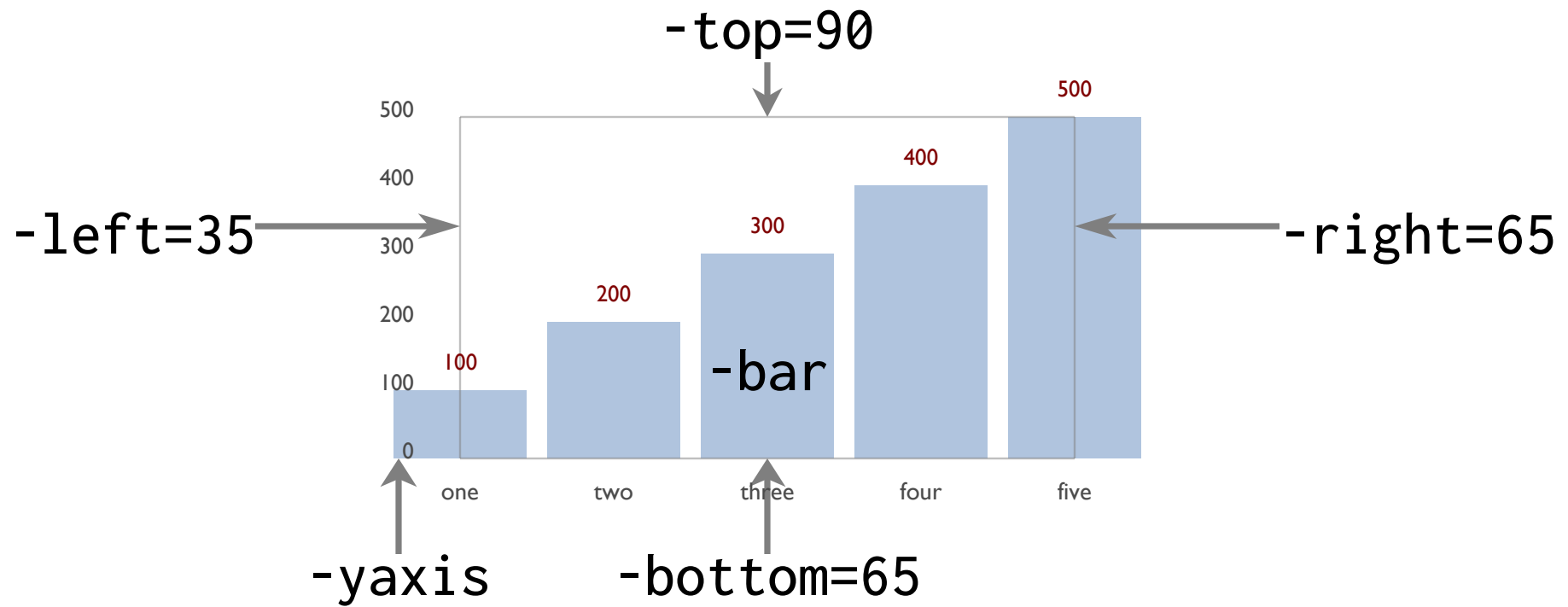
| | | |
|------------|---------------------------|--------------------------------|
| -csv | false | read CSV files |
| -frame | false | show a colored frame |
| -fulldeck | true | generate full deck markup |
| -grid | false | show gridlines on the y axis |
| -note | true | show annotations |
| -pct | false | show computed percentage |
| -rline | false | show a regression line |
| -solidpmap | false | show solid pmap colors |
| -spokes | false | show spokes in radial chart |
| -title | true | show the title |
| -val | true | show values |
| -xlast | false | show the last x label |
| -xstagger | false | stagger x axis labels |
| -yaxis | false | show a y axis |
| -chartitle | override title in data | specify the title |
| -datacond | low,high,color | conditional data colors |
| -hline | value,label | label horizontal line at value |
| -valpos | t=top, b=bottom, m=middle | value position |
| -xlabel | default=1, 0 to suppress | x axis label interval |
| -yrange | min,max.step | specify the y axis label range |

Position and Scaling

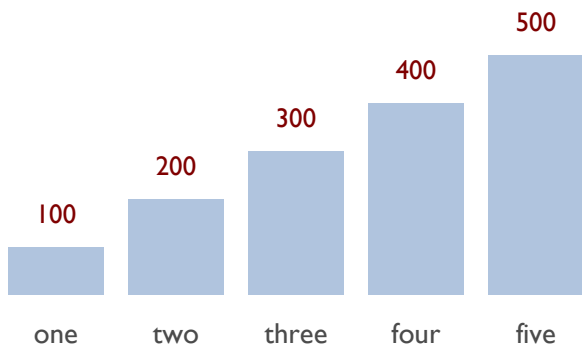
| | | |
|---------|----------|----------------------------|
| -top | 80 | top of the chart |
| -bottom | 30 | bottom of the chart |
| -left | 20 | left margin |
| -right | 80 | right margin |
| -min | data min | set the minimum data value |
| -max | data max | set the maximum data value |

Measures and Attributes

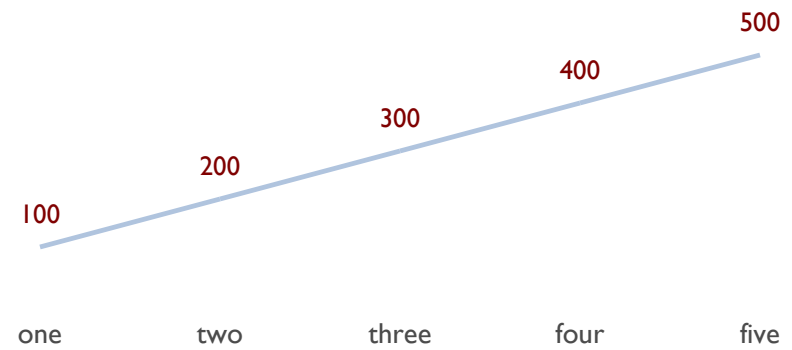
| | | |
|-------------|---------------------------|----------------------------|
| -bgcolor | white | background color |
| -barwidth | computed from data size | barwidth |
| -color | lightsteelblue | data color |
| -csvcol | label1,label2 | specify csv columns |
| -datafmt | %.1f | data format for values |
| -dmin | false | use data minimum, not zero |
| -framecolor | rgb(127,127,127) | frame color |
| -lcolor | rgb(75,75,75) | label color |
| -linewidth | 0.2 | linewidth |
| -ls | 2.4 | linespacing |
| -noteloc | c=center, r=right, l=left | annotation location |
| -pmlen | 20 | pmap label length |
| -psize | 30 | diameter of the donut |
| -pwidth | 3 | width of the donut or pmap |
| -rlcolor | rgb(127,0,0) | regression line color |
| -textsize | 1.5 | text size |
| -xlabrot | 0 | xlabel rotation (deg.) |
| -vcolor | rgb(127,0,0) | value color |
| -volop | 50 | volume opacity % |



dchart options "file"



dchart -left=10 -right=30 -top=35 -bottom=20 "test.d"



dchart -left=55 -right=85 -top=35 -bottom=20 -bar=f -line "test.d"



My text
(x,y)

legend "text" x y size font color

■ Item on the chart

■ *Thing*

legend "Item on the chart" 20 30 3 "sans" "red"

legend "Thing" 70 30 2 "serif" "blue"