

XploRe Course - Xtra 1

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`setmaskp(data, color, layout, size)` influences the layout, size and color of data points

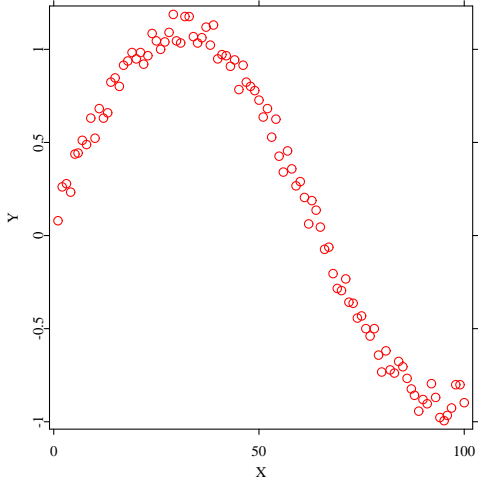
`setmaskl(data, lines, color, type, thickness)` influences the layout, size, type and color between data points

`setmaskt(data, labels, color, direction, size)` influences the appearance of text at the data points

`setgopt(d,row,col, optname1,optval1,..., optnameN,optvalN)` influences several parameters of plots and displays

setmaskp

```
1  x = 1:100
2  y = sin(x/20)+uniform(100)/5
3  data = x~y
4  setmaskp(data, 4, 3, 8)
5  d = createdisplay(1, 1)
6  show(d, 1, 1, data)
```



setmaskp

setmaskp(data, color, layout, size)

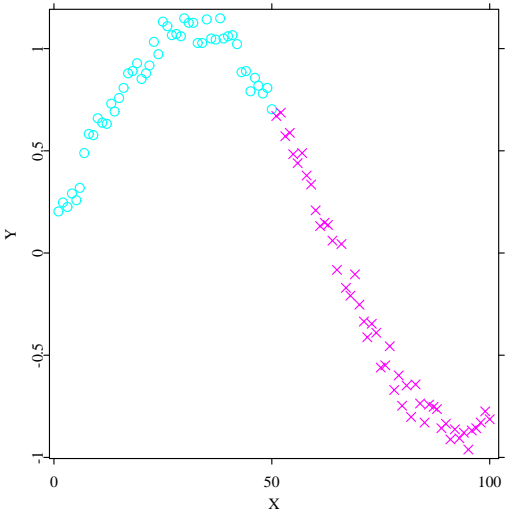
color 0: black, 1: blue, 2: green, 3: cyan, 4: red, 5: magenta, 6: yellow, 7: white

layout 0: empty, 1: a point, 2: a rectangle, 3: a circle, 4: a triangle, 5: an X-symbol, 6: a rhombus, 7: a filled rectangle, 8: a filled circle, 9: a filled rhombus, 10: a filled triangle, 11: a cross, 12: a star, 13: a grid, 14: a different cross

size 0-15; the default size is 8

setmaskp

```
1  x = 1:100
2  y = sin(x/20)+uniform(100)/5
3  data = x~y
4  setmaskp(data, 3*matrix(50)|5*matrix(50),
5  3*matrix(50)|5*matrix(50), 8)
6  d = createdisplay(1, 1)
7  show(d, 1, 1, data)
```



setmaskp

```
1 di=createdisplay(1, 1)
2 x=1:100
3 y=sin(x/20)+uniform(100, 1)/10
4 data=x~y
5 color=4*matrix(50) | 5*matrix(50)
6 layout=3*matrix(25) | 4*matrix(25) | 5*matrix(25) |
   6*matrix(25)
7 setmaskp(data, color, layout, 8)
8 show(di, 1, 1, data)
```


setmaskl

setmaskl(data, pmatrix, colornum, art, thick)

pmatrix which points to connect, one row per line, 0 interrupts

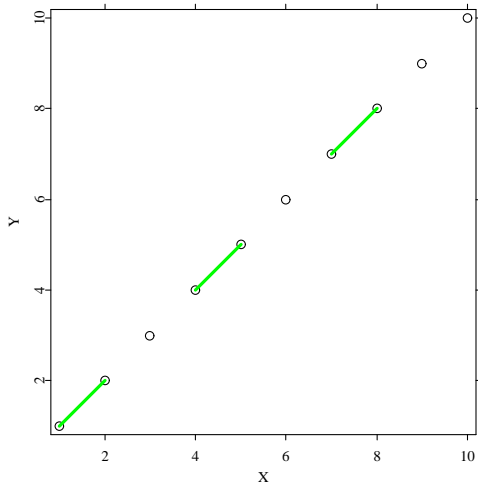
colornum color of each line, one row per line

art 0: invisible line, 1: solid line, 2: finely dashed line, 3: less finely dashed line, 4: even less finely dashed line

thick 0: thinnest line, 15 thickest line possible

setmaskl

```
1 d = createdisplay(1,1)
2 x=matrix (10,2) .* aseq (1,10 ,1)
3 pm =('#(1,2,0,4,5,0,7,8)')
4 cn = 2
5 ar = 1
6 th = 3
7 setmaskl(x,pm,cn,ar,th)
8 show(d, 1, 1, x)
```



setmaskt

setmaskt(data, labels, color, direction, size)

labels vector of labels, one row per point

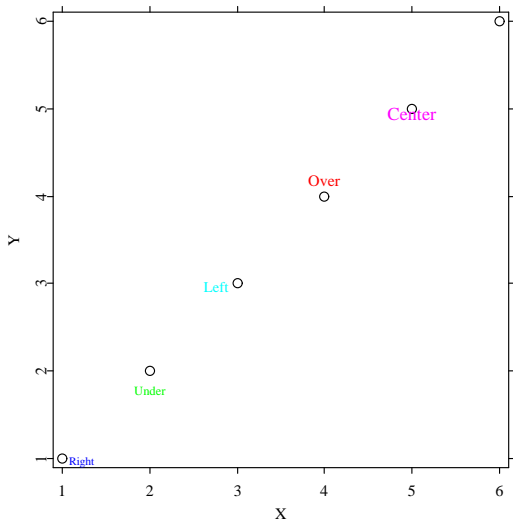
color 0: black, 1: blue, 2: green, 3: cyan, 4: red, 5: magenta, 6: yellow, 7: white

direction -1: no label; 0: centered, 3: right, 6: below, 9: left, 12: above

size 8 to 128

setmaskt

```
1 x=1:6
2 x=x~x
3 d=createdisplay(1, 1)
4 text="Right"|"Under"|"Left"|"Over"|"Center"|"No"
5 setmaskt(x, text, 1:6, 3|6|9|12|0|(-1), 10+2*x[:,1])
6 show(d, 1, 1, x)
```



setgopt

- `title` to change the headline of a plot,
- `xlim` to change the limits of the x-axis,
- `ylim` to change the limits of the y-axis,
- `xoffset` to change the width of the axis border,
- `yoffset` to change the height of the axis border,
- `xvalue` to change the values m and k of the transformation $m+k*x$ (x-axis),
- `yvalue` to change the values m and k of the transformation $m+k*y$ (y-axis),

setgopt

`xorigin` to change the coordinates of the origin for the tickmarks of the x-axis,

`yorigin` to change the coordinates of the origin for the tickmarks of the y-axis,

`xmajor` to change the major for the tickmarks of the x-axis,

`ymajor` to change the major for the tickmarks of the y-axis,

`xlabel` to change the label of the x-axis,

`ylabel` to change the label of the y-axis,

`rotpoint` to change the rotation point of the plot,

`rotcos` to change the rotation cosinus matrix of the plot,

setgopt

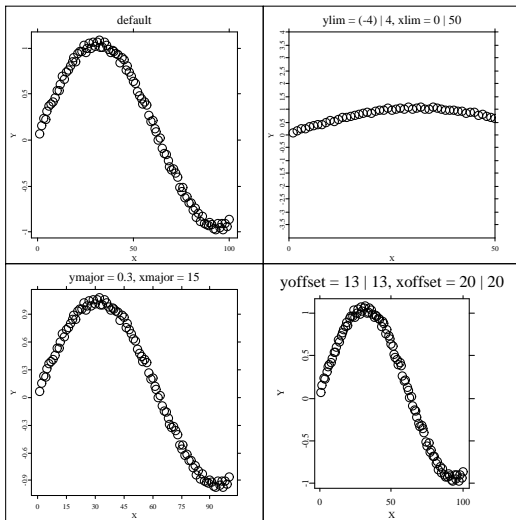
- border** to control the frame around the plot,
- scal** to change the scale matrix,
- transl** to change the translation vector,
- xaxis** to turn the x-axis either on (=1) or off (=0),
- yaxis** to turn the y-axis either on (=1) or off (=0),
- zaxis** to turn the z-axis either on (=1) or off (=0),
- fonttype** to set the font type used for labels and title,
- dispsize** to change the size of the window with display/graphs,
- disppos** to change the position of the window with display/graphs.

setmaskt

```
1 x = 1:100
2 y = sqrt(x)
3 data = x~y
4 d = createdisplay(1, 1)
5 show(d,1,1,data)
6 title = "Plot of Sqrt(x)"
7 ylabel = "y = sqrt(x)"
8 setgopt(d, 1, 1,"title",title, "xlabel","x","ylabel"
  ,ylabel)
```

setmaskt

```
1 x = 1:100
2 y = sin(x /20) +uniform(100, 1) /10
3 d = createdisplay(2, 2)
4 show(d, 1, 1, x~y)
5 show(d, 1, 2, x~y)
6 show(d, 2, 1, x~y)
7 show(d, 2, 2, x~y)
8 setgopt(d, 1, 1, "title", "default")
9 title12 = "ylim = (-4) | 4, xlim = 0 | 50"
10 setgopt(d,1,2,"title", title12 , "ylim",(-4)|4,"xlim
    ",0|50)
11 title21 = "ymajor = 0.3, xmajor = 15"
12 setgopt(d,2,1,"title",title21,"ymajor",0.3, "xmajor"
    ,15)
13 title22 = "yoffset = 13 | 13, xoffset = 20 | 20"
14 setgopt(d,2,2,"title",title22,"yoffset",13|13,"
    xoffset",20|20)
```



```
1 1:100 y = sin(x /20) +uniform(100, 1) /10 d = createdisplay(1,  
    2) show(d, 1, 1, x y) show(d, 1, 2, x y)  
    setgopt(d,1,1,"dispsize",800|400,"yoffset",23|23,"xoffset",20|20)
```