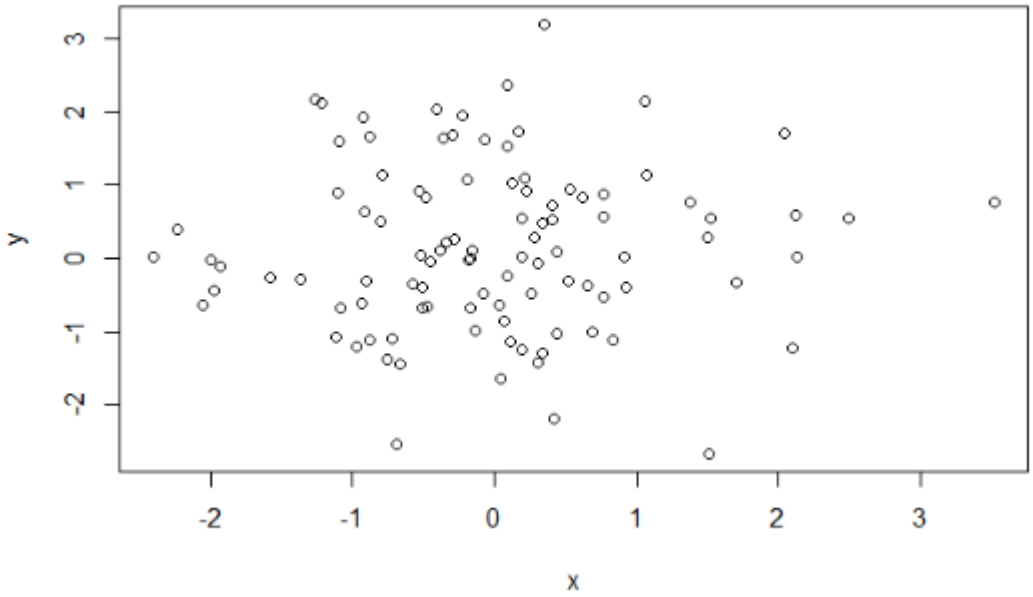
## 2.3 Lab: Introduction to R

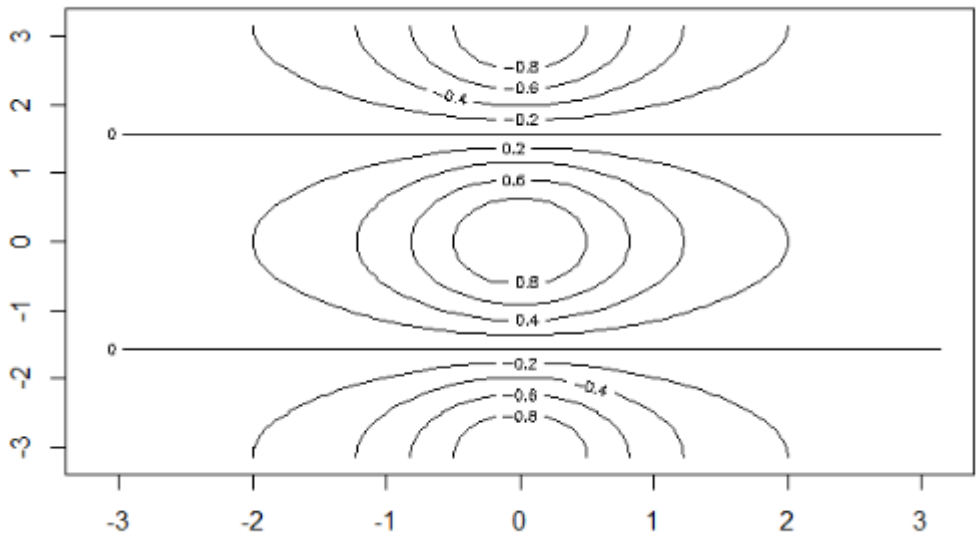
plot(x,y) produces a scatterplot of the numbers in x versus the numbers in y.

```
> x=rnorm (100)
> y=rnorm (100)
> plot(x,y)
```




contour() function produces a *contour plot* in order to represent three-dimensional data.

```
> y=x
> f=outer(x,y,function (x,y)cos(y)/(1+x^2))
> contour (x,y,f)
```



The image() function works the same way as contour(), except that it produces a color-coded plot whose colors depend on the z value. (known as a *heatmap)*

> A[2,3]

> A[c(1,3) ,c(2,4) ]

> A[1:3 ,2:4]

read.table() function we load it now from a text file

the fix() function can be used to view it in a spreadsheet like window

write.table() to export data

fix results:

| | LC50..LOG.mol.L.. | CIC0 | SM1_Dz.Z. | GATS1i | NdsCH | NdssC | MLOGP | var8 |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.77 | 3.26 | 0.829 | 1.676 | 0 | 1 | 1.453 | |
| 2 | 3.115 | 2.189 | 0.58 | 0.863 | 0 | 0 | 1.348 | |
| 3 | 3.531 | 2.125 | 0.638 | 0.831 | 0 | 0 | 1.348 | |
| 4 | NA | 3.027 | 0.331 | 1.472 | 1 | 0 | 1.807 | |
| 5 | 5.39 | 2.094 | 0.827 | 0.86 | 0 | 0 | 1.886 | |
| 6 | 1.819 | 3.222 | 0.331 | 2.177 | 0 | 0 | 0.706 | |
| 7 | 3.947 | 3.179 | 0 | 1.063 | 0 | 0 | 2.942 | |
| 8 | 3.513 | 3 | 0 | 0.938 | 1 | 0 | 2.851 | |
| 9 | 4.402 | 2.62 | 0.499 | 0.99 | 0 | 0 | 2.942 | |
| 10 | 3.021 | 2.834 | 0.134 | 0.95 | 0 | 0 | 1.591 | |
| 11 | 3.21 | 2.405 | 0.134 | 0.843 | 0 | 0 | 1.769 | |
| 12 | 2.371 | 2.728 | 0.223 | 0.953 | 0 | 0 | 1.591 | |
| 13 | 3.919 | 2.512 | 0.223 | 0.929 | 1 | 0 | 1.769 | |
| 14 | 3.03 | 2.834 | 0.134 | 1.237 | 0 | 0 | 1.859 | |
| 15 | 2.736 | 2.819 | 0.331 | 1.271 | 0 | 1 | 0.981 | |
| 16 | 2.157 | 2.126 | 0.251 | 1.114 | 0 | 0 | 0.143 | |
| 17 | 2.413 | 2.834 | 0.134 | 1.322 | 0 | 0 | 1.199 | |
| 18 | 0.898 | 3.014 | 0.56 | 1.781 | 0 | 0 | -0.115 | |
| 19 | 0.45 | 3.024 | 0.452 | 2.698 | 0 | 0 | 1.107 | |

The dim() function tells us that the data has how many rows and columns

na.omit() function to remove rows with missing values

Pairs function and hist is used in report problem7-HW2