Taller 1 de R: Introducción

Juan David Henao Sánchez

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Crear objetos simples/introducir datos

```
> z <- scan()#dos veces enter para terminar
> z

numeric(0)

> x <- c(3,8,9,6,4,5)
> x

[1] 3 8 9 6 4 5

> w <- 1:10
> w

 [1]  1  2  3  4  5  6  7  8  9 10

> y <- seq(1, 20, 2)
> y

 [1]  1  3  5  7  9 11 13 15 17 19

> u<-rep(1,7)
> u

[1] 1 1 1 1 1 1 1

> u<-rep(c(1,2),c(3,4))
> u

[1] 1 1 1 2 2 2 2

> t<- rep(c(3,4),c(3,4))
> t

[1] 3 3 3 4 4 4 4

> c(u,t)

 [1] 1 1 1 2 2 2 2 3 3 3 4 4 4 4
```

```
> ut1<-cbind(u,t) #combinar columnas
> ut1

     u t
[1,] 1 3
[2,] 1 3
[3,] 1 3
[4,] 2 4
[5,] 2 4
[6,] 2 4
[7,] 2 4

> ut2<-rbind(u,t) #combinar filas
> ut2

  [,1] [,2] [,3] [,4] [,5] [,6] [,7]
u    1    1    1    2    2    2    2
t    3    3    3    4    4    4    4

> class(ut2)

[1] "matrix"

> x <- rnorm(1000, mean = 3, sd = 2)
> x

   [1]  2.549809446  1.839630892  1.282680310  3.692048051  4.661147875
   [6]  5.554098844  2.644614408  3.068916994  2.152073057  2.283656515
  [11]  6.455498280  2.414685268  1.672197900  4.085868309  0.565219072
  [16]  1.709262812  2.507848811  2.047469394  0.947004812  1.741135580
  [21]  3.564145497  4.638132891  3.333785237  2.813100009  7.534460892
  [26]  5.219139129  0.635494028  1.187592290 -0.398129298  7.616424503
  [31]  1.755244097  4.326030839  2.977099276  1.939406263  3.644023452
  [36]  2.611244211  5.473106951  4.205584915  3.406003559  1.284512030
  [41]  2.213945114  2.059594595 -0.565271321  4.628772533  5.174611448
  [46]  0.947948846  2.026604483  1.019221968  0.007545559  2.805410938
  [51]  0.746012115  1.467040012  3.773947369  0.947471463  6.414444323
  [56]  3.073834757  2.726369692  4.441264230  3.131925572  4.164107199
  [61]  3.461885580  4.383243201  3.407920386 -0.148953812  3.623285632
  [66]  1.630188360  2.927566411  3.662856991  2.960713638  2.295489865
  [71]  0.407183986 -1.328208755  2.919506176  2.205208056  3.470972090
  [76]  4.242457445  4.575248080  4.047188156  2.557805171  2.315212687
  [81]  6.112701499  3.153719327  2.456889118  1.646413986  3.276021851
  [86]  2.634623459  2.058473842  4.286056868  7.245207305  2.045927014
  [91]  8.384833930  2.448430622  2.005864026  2.854773636  3.036758047
  [96]  3.736027269  3.481796412  3.198868910  1.646301775  6.741196022
 [101]  2.179905260  3.578598682  1.110293381  1.577574285  3.804835488
 [106]  1.336364774 -0.080444638  2.706687625  1.021765470  3.254651227
 [111]  1.414776195  2.219142856  6.508814647  1.814937569  4.055339971
 [116]  3.278277052  1.808389181  4.505441720  1.596707362  2.501833357
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[121]  2.328590187  5.090457229  5.316517254  0.124619198  1.218971513
[126]  3.684353635  2.897587745 -0.007142253  1.074544559  4.340390430
[131]  2.334471231  5.788069873  1.686048532  2.197974061  0.756523655
[136]  1.975982229  2.055388638  1.122453636  1.616318341  4.954763825
[141]  4.574877502  3.680750876  2.257530574  4.677328988  3.664834851
[146]  2.590224284  5.360766954  4.869675916  1.812547737  2.966770082
[151] -1.298683442  3.853108341 -0.959680157  4.809942093  5.951704272
[156]  4.683597308  2.837857239  5.564605411  2.961893572  2.559719730
[161]  1.117713049  4.666427539  1.435584599  2.506712539  3.862428040
[166]  1.551481011  1.839835247  3.966555446  3.076756598  1.644970884
[171]  4.058006609  3.817086307  0.053954518  3.360005472  3.910737270
[176]  2.588684479  2.229941145  6.519065735  3.032522933  2.759817456
[181]  2.192899837  3.340903457  5.245123773  4.407987525 -0.454999702
[186]  2.096442473  3.047951507  1.591235065  1.220881160  4.335124104
[191]  1.738403339  0.933955247  3.554047510  5.148944813  2.279678287
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[216] -1.144972038  4.016605526  1.607687327  1.045535062  3.491139275
[221]  1.050341688  2.294114632  4.696151504  8.594567053  3.004682358
[226] -1.291931560  4.814764863  0.140969556  0.251458368  3.604247222
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[266]  2.541330476  3.743549403  3.869172983  2.158462888  0.812876559
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 [881]  7.357246044  6.294162364  1.386727111  2.697716286  3.662004631
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 [956]  3.034061815  2.578143484  3.950788029  7.247933013  5.007392570
 [961]  3.295101237  0.200431598  0.987983198  0.988818331  2.802619257
 [966]  2.300151119  0.391059027  1.300922557  4.171885421  1.409485903
 [971]  6.007283093  6.327755267  2.651149449 -0.834551474  5.066586588
 [976] -1.822263228  3.245424934  4.259304405  2.252949181  4.869784288
 [981]  4.804599099  4.167177779  3.707744091  4.680412407  1.499606085
 [986]  4.249876308  2.438818939  2.144375640  2.505402620  3.836393112
 [991] -1.252654441  5.787134448  4.742954138  3.063334126  3.480134859
 [996]  3.748770942  3.329661538  2.194011299  0.171435648  4.586497314
```

```
> x1 <- matrix(x,nrow = 10, ncol = 100)
> x1
```

```
          [,1]      [,2]       [,3]     [,4]         [,5]      [,6]       [,7]
 [1,] 2.549809 6.4554983  3.5641455 1.755244  2.213945114 0.7460121  3.4618856
 [2,] 1.839631 2.4146853  4.6381329 4.326031  2.059594595 1.4670400  4.3832432
 [3,] 1.282680 1.6721979  3.3337852 2.977099 -0.565271321 3.7739474  3.4079204
 [4,] 3.692048 4.0858683  2.8131000 1.939406  4.628772533 0.9474715 -0.1489538
 [5,] 4.661148 0.5652191  7.5344609 3.644023  5.174611448 6.4144443  3.6232856
 [6,] 5.554099 1.7092628  5.2191391 2.611244  0.947948846 3.0738348  1.6301884
 [7,] 2.644614 2.5078488  0.6354940 5.473107  2.026604483 2.7263697  2.9275664
 [8,] 3.068917 2.0474694  1.1875923 4.205585  1.019221968 4.4412642  3.6628570
 [9,] 2.152073 0.9470048 -0.3981293 3.406004  0.007545559 3.1319256  2.9607136
[10,] 2.283657 1.7411356  7.6164245 1.284512  2.805410938 4.1641072  2.2954899
           [,8]     [,9]    [,10]       [,11]    [,12]        [,13]     [,14]
 [1,]  0.407184 6.112701 8.384834  2.17990526 1.414776  2.328590187 2.3344712
 [2,] -1.328209 3.153719 2.448431  3.57859868 2.219143  5.090457229 5.7880699
 [3,]  2.919506 2.456889 2.005864  1.11029338 6.508815  5.316517254 1.6860485
 [4,]  2.205208 1.646414 2.854774  1.57757428 1.814938  0.124619198 2.1979741
```

```
 [5,]  3.470972 3.276022 3.036758  3.80483549 4.055340  1.218971513 0.7565237
 [6,]  4.242457 2.634623 3.736027  1.33636477 3.278277  3.684353635 1.9759822
 [7,]  4.575248 2.058474 3.481796 -0.08044464 1.808389  2.897587745 2.0553886
 [8,]  4.047188 4.286057 3.198869  2.70668763 4.505442 -0.007142253 1.1224536
 [9,]  2.557805 7.245207 1.646302  1.02176547 1.596707  1.074544559 1.6163183
[10,]  2.315213 2.045927 6.741196  3.25465123 2.501833  4.340390430 4.9547638
        [,15]      [,16]    [,17]      [,18]      [,19]     [,20]     [,21]
 [1,] 4.574878 -1.2986834 1.117713 4.05800661  2.1928998 1.7384033 2.6526802
 [2,] 3.680751  3.8531083 4.666428 3.81708631  3.3409035 0.9339552 2.1916699
 [3,] 2.257531 -0.9596802 1.435585 0.05395452  5.2451238 3.5540475 0.7601701
 [4,] 4.677329  4.8099421 2.506713 3.36000547  4.4079875 5.1489448 1.1691705
 [5,] 3.664835  5.9517043 3.862428 3.91073727 -0.4549997 2.2796783 6.0221288
 [6,] 2.590224  4.6835973 1.551481 2.58868448  2.0964425 2.8028848 2.7302658
 [7,] 5.360767  2.8378572 1.839835 2.22994115  3.0479515 1.1332514 6.8446163
 [8,] 4.869676  5.5646054 3.966555 6.51906574  1.5912351 2.5932192 1.2036857
 [9,] 1.812548  2.9618936 3.076757 3.03252293  1.2208812 2.5109699 6.4845913
[10,] 2.966770  2.5597197 1.644971 2.75981746  4.3351241 4.0995945 1.1434739
         [,22]      [,23]     [,24]     [,25]      [,26]     [,27]       [,28]
 [1,]  1.873021  1.0503417 5.5687800  3.390624  5.7870714 1.5955430  2.10882830
 [2,]  7.922579  2.2941146 5.6745655  4.381673  3.3600065 3.4147407  3.10658729
 [3,]  2.623781  4.6961515 2.3851144  1.154787 -0.5396995 6.9352715  0.92271007
 [4,]  6.430224  8.5945671 5.1975667 -1.602893  3.8106261 2.7480945  2.87705619
 [5,] -2.169040  3.0046824 2.9624362  4.081841  0.7774565 0.2101579  2.96602238
 [6,] -1.144972 -1.2919316 2.0991638  2.456948 -0.7581963 2.5413305  1.57029557
 [7,]  4.016606  4.8147649 3.4321048  2.434080  3.4876700 3.7435494 -0.06575232
 [8,]  1.607687  0.1409696 0.1620997  2.739010  2.3464346 3.8691730  3.43470594
 [9,]  1.045535  0.2514584 3.5452844  1.666165  1.6089330 2.1584629  2.95981132
[10,]  3.491139  3.6042472 1.5000621  4.077466  3.5046660 0.8128766  3.29250904
          [,29]     [,30]      [,31]     [,32]      [,33]     [,34]      [,35]
 [1,]  1.7506655 4.3215460  4.6002555  5.251034  1.1478835 6.8444582  1.4662747
 [2,]  4.1405517 5.1685247  6.6157689  4.462501  5.6771430 3.9508281  3.0117997
 [3,] -0.7398335 0.5213447 -0.8063130  1.511739  8.7593059 1.2800669  5.9323547
 [4,]  2.1599963 1.6238376  1.1227263  3.303902  1.3574913 3.3469537  1.4817748
 [5,]  0.2661582 4.2986231  1.0971943 -1.644783 -0.3532644 4.9026591  2.1762714
 [6,]  2.3676407 6.7050010  2.5152985  4.597705  3.3050421 2.6611957  3.2351081
 [7,]  2.1463918 4.8251026  1.2121836 -1.804171  4.2097944 2.1497103  3.7223924
 [8,]  2.8839173 1.6628761  3.3592812  1.974937  5.8353523 1.7558550  0.4720766
 [9,] -0.3653674 0.8210073  2.2782231  2.821793  7.7589940 0.9470827  0.7480519
[10,]  2.0273323 4.2781871 -0.6681865  2.128260  5.4052746 1.1477031 -1.8176597
          [,36]    [,37]     [,38]       [,39]       [,40]     [,41]
 [1,]  4.1060542 3.041295 2.3346105 -0.85748227  1.71210579 2.2215355
 [2,]  6.7616200 1.395860 2.5489191  3.44410810  5.42352786 2.5440494
 [3,] -0.3476817 3.496576 3.8654341  3.98697719  4.75504235 4.6266129
 [4,] -0.5809065 3.336552 0.4337412 -0.06832093  0.07567689 3.7999369
 [5,]  1.3331278 4.787397 3.3180433  3.06436939  0.64746248 1.0793464
 [6,]  6.0914707 3.358859 3.5667442  4.51527102  4.26972983 1.5950452
 [7,]  3.4497093 1.684106 3.3112627  1.68227289  5.93887293 0.4966362
 [8,]  5.9138404 4.546729 0.2180196  1.30679499  3.19840992 5.6620272
 [9,]  0.2228864 3.286519 3.3239956  2.96052685 -0.24804890 5.7935836
```

```
[10,]  3.9108401 5.477246 1.5428528  2.42769958  4.25350538 4.5935664
          [,42]     [,43]     [,44]      [,45]      [,46]    [,47]      [,48]
 [1,]  6.7140526 4.7890286  3.760277  3.2897860  4.6903466 4.539475  1.7348448
 [2,]  2.3314255 0.3412429  3.982113  0.3327485  4.6008817 2.292218  3.0947663
 [3,]  6.5228394 1.3944318  5.166848  4.0004584  0.5166911 3.820881  2.7919005
 [4,] -0.1469199 4.1901569  7.543858 -0.2328512  4.8836770 3.456775  0.7020809
 [5,]  4.2060184 2.2156337  3.792986  6.3052178  2.0532745 2.462449  1.6784680
 [6,]  4.6140023 2.9845966  3.858508  1.5447326  5.0124226 3.074221 -0.3818482
 [7,]  4.6842762 2.6356509  3.821469  5.0720187  5.7107015 6.665978  2.1675472
 [8,]  3.5643768 1.0163072  0.736319  2.5982118  3.1740661 1.753669  0.9207785
 [9,]  2.7628377 3.8682495  6.488739  3.9400734  4.1150912 2.848500  4.6394811
[10,]  2.5085408 1.7866471 -1.754240  2.6922841 -1.4116295 1.808584  6.6801208
         [,49]       [,50]    [,51]      [,52]    [,53]    [,54]     [,55]
 [1,] 2.1689649  3.25116455 3.025545 -0.4227015 2.170755 4.794886  1.741342
 [2,] 1.0515740  1.04034825 1.840864  2.0438211 3.025972 4.679764  1.426471
 [3,] 4.2469245 -0.05996273 1.931929  2.9664800 3.653585 1.389251  4.922600
 [4,] 4.8244486  3.76669390 3.155130  2.7526173 3.528969 3.535047  1.062972
 [5,] 1.6465729  7.23076771 5.425735  1.9316603 2.975217 3.531426  2.475295
 [6,] 1.3018722  0.20970937 2.122907  3.2977666 2.575462 6.065487 -1.519211
 [7,] 3.0472336  2.24562462 5.519185  1.0681257 1.407129 3.747054  3.118931
 [8,] 3.3942971  3.78605962 3.604337  2.3687097 2.723105 3.406636  1.680929
 [9,] 4.9524018  3.28826408 4.268839  1.7489772 2.729306 5.017531  2.857333
[10,] 0.4271721  0.64832358 3.017584  5.5528377 2.075765 1.152347  5.008991
          [,56]     [,57]     [,58]    [,59]       [,60]    [,61]     [,62]
 [1,]  5.1553054 2.5622372 5.9809646 2.917100  3.97122125 3.596582 3.2411811
 [2,]  2.8298857 2.5446191 2.6608045 5.757696  4.95295409 3.271231 1.9457109
 [3,]  3.3176323 2.0863367 5.2719281 3.587938 -0.00127362 1.497754 2.3008926
 [4,] -0.1405319 2.5082990 3.7564354 2.840686  3.90613386 2.768755 2.8375727
 [5,]  3.6653465 5.0505626 2.7676325 3.531017  1.07198683 1.745862 0.2369313
 [6,]  3.1280315 3.3223952 3.5540809 5.333315  1.53021798 2.008449 2.3222360
 [7,]  5.6289093 4.7932919 7.1112611 5.520150  2.77911098 4.548240 1.3245984
 [8,]  2.5309491 4.4155114 0.4389107 2.816962  3.00625461 5.327572 2.7764063
 [9,]  7.7812044 0.0120211 3.1739269 8.429146  3.40517273 3.796506 3.3942201
[10,]  2.0777782 7.3796294 6.6964398 5.279210 -0.09915935 3.690191 0.5169962
         [,63]       [,64]     [,65]     [,66]      [,67]     [,68]      [,69]
 [1,] 2.388085  4.13615670 0.4442943 0.8913629 1.94422754 5.8449677 -0.3647683
 [2,] 2.486861 -1.58293180 2.9336166 4.0757676 1.01745594 3.8649494  4.2156274
 [3,] 5.451589  2.52743199 1.7647263 6.1467039 1.28390942 3.6181639  3.9124811
 [4,] 1.891642  0.05109325 5.3104826 1.1045748 4.96211265 4.5057912 -0.4632675
 [5,] 2.544830  1.69168608 0.1800304 2.3648874 4.16751429 1.9707352  4.1234881
 [6,] 2.001228  0.78943545 3.3426730 4.8055680 5.26825607 1.8808785  4.4267114
 [7,] 4.257262  5.65210347 5.0250903 5.9371462 0.05960293 2.9678798  2.7694883
 [8,] 3.833075  4.83455010 4.5608496 8.2481384 3.71027607 1.2724549  1.6680417
 [9,] 2.784365  2.24469518 0.6291585 7.1807942 3.98586547 0.4228104  2.1461638
[10,] 1.990405  4.34911821 3.5222799 3.6393117 2.59069902 1.9821037  2.4122922
           [,70]    [,71]    [,72]     [,73]    [,74]    [,75]      [,76]
 [1,]  1.37697643 2.653000 1.644762 4.6246716 3.991020 2.206028  3.5910433
 [2,]  4.15689936 2.383511 4.525246 2.7756354 6.052837 3.320692  2.4362803
 [3,]  4.96525796 3.383917 1.421936 5.5460794 3.711334 2.702936  3.7509715
```

```
 [4,]  2.01471016 3.371665 2.154449 4.9128926 3.117504 1.419055  5.3272050
 [5,]  5.37663203 1.825894 2.551952 1.9071196 3.787735 4.469298  0.9075318
 [6,] -0.28722791 1.448278 2.640657 0.2636272 5.191913 1.970097 -0.1998171
 [7,] -0.03021229 4.408202 3.149508 4.0059429 2.388608 2.083638  1.4082752
 [8,]  3.75376072 1.184809 2.035660 4.4898819 5.176142 3.514051  1.4914894
 [9,]  3.19033172 3.091898 5.663486 4.0934165 6.665067 2.385966  1.6417989
[10,]  3.14075955 2.726215 3.297124 0.8506750 2.702163 1.812377  3.4391551
          [,77]     [,78]      [,79]      [,80]     [,81]    [,82]      [,83]
 [1,] 1.8657185  4.928750  3.8790200  2.5437692 2.2524953 4.225144  0.2095015
 [2,] 1.1893796  3.854873 -0.3947430 -0.5332215 3.3948097 1.997513  1.9178155
 [3,] 1.4734378  4.080441  0.9418838  0.9205903 0.7798029 1.223900  0.9895919
 [4,] 6.4363516  4.846798  3.3678211  4.9857434 3.8750807 2.904080  0.8941439
 [5,] 4.2189660 -1.583989  3.0239842  4.1201419 1.4292359 6.488426  6.6015097
 [6,] 3.1299285  3.637146 -1.5339768  6.1357988 2.7381128 2.564116  4.9270320
 [7,] 2.4535206  3.022384  1.4769635  2.2272477 3.8663471 4.620772  3.1974957
 [8,] 0.4366745  4.005390  2.6215385  2.4900630 1.6831936 6.676258 -0.5274403
 [9,] 4.0614436  1.091053  2.0867775  3.9867530 5.9717727 2.415344  5.6881787
[10,] 0.2040761  1.084389 -0.8096966  5.8539910 2.7523683 4.025911  8.2399421
            [,84]     [,85]      [,86]     [,87]     [,88]     [,89]      [,90]
 [1,]  2.70122083 2.0475376 -0.3378318 2.7959297 1.1975647 7.3572460 -0.6636989
 [2,]  2.19675110 0.9780121 -0.1114934 2.4344900 2.1314961 6.2941624  2.7471363
 [3,]  2.08198265 2.5792280  0.8350327 0.5938185 4.0683762 1.3867271  6.9849842
 [4,]  3.54306705 5.7364460  4.8104351 1.1660275 3.4912110 2.6977163  6.4319645
 [5,]  4.77971752 5.6834516  1.4674078 3.0767170 2.9296888 3.6620046  2.8671132
 [6,]  1.25866202 2.3434416  5.3142546 2.6540958 1.7726798 5.2548943  0.3162831
 [7,] -0.02487912 4.7532532  3.3410843 0.6555509 2.7615510 1.6881276  2.3746806
 [8,]  1.98381001 2.8948100  7.2143368 8.4693922 2.4226974 3.1079343  4.3419617
 [9,]  6.79877923 3.9093253  0.5081064 2.3066171 5.1327453 4.5559604  2.5558039
[10,]  3.40702972 2.0161469  3.2074628 2.5874525 0.2077704 0.9006323 -2.2796245
          [,91]     [,92]     [,93]     [,94]      [,95]    [,96]     [,97]
 [1,] 0.7448434 5.9671113 4.1523496 3.1618684  2.7839281 3.312846 3.2951012
 [2,] 5.3263052 4.5732766 4.7310487 1.6080800  4.7479149 1.611182 0.2004316
 [3,] 2.2424125 2.3295508 2.0410247 0.7548544 -0.6606016 2.631430 0.9879832
 [4,] 5.2988586 5.7335074 4.0852420 2.5571533  1.6570499 1.897088 0.9888183
 [5,] 0.4176666 3.8779858 0.3787523 2.3597483  3.5572882 2.962659 2.8026193
 [6,] 4.9780985 0.8873021 1.6615864 1.3153479  3.1771411 3.034062 2.3001511
 [7,] 1.7861063 6.0148623 3.2588701 2.8853193  1.7314847 2.578143 0.3910590
 [8,] 2.9109270 1.6083709 3.9880093 6.4169166  4.5193518 3.950788 1.3009226
 [9,] 7.1979965 5.1707074 1.8657104 2.8660945  1.8743993 7.247933 4.1718854
[10,] 4.0491785 4.1217758 2.6097130 2.3022518  4.1943856 5.007393 1.4094859
          [,98]    [,99]     [,100]
 [1,]  6.0072831 4.804599 -1.2526544
 [2,]  6.3277553 4.167178  5.7871344
 [3,]  2.6511494 3.707744  4.7429541
 [4,] -0.8345515 4.680412  3.0633341
 [5,]  5.0665866 1.499606  3.4801349
 [6,] -1.8222632 4.249876  3.7487709
 [7,]  3.2454249 2.438819  3.3296615
 [8,]  4.2593044 2.144376  2.1940113
```

```
 [9,]  2.2529492 2.505403  0.1714356
[10,]  4.8697843 3.836393  4.5864973

> class(x1)

[1] "matrix"

> dim(x)

NULL

> x2<-as.data.frame(x1)
> x2

         V1        V2         V3       V4           V5        V6         V7
1  2.549809 6.4554983  3.5641455 1.755244  2.213945114 0.7460121  3.4618856
2  1.839631 2.4146853  4.6381329 4.326031  2.059594595 1.4670400  4.3832432
3  1.282680 1.6721979  3.3337852 2.977099 -0.565271321 3.7739474  3.4079204
4  3.692048 4.0858683  2.8131000 1.939406  4.628772533 0.9474715 -0.1489538
5  4.661148 0.5652191  7.5344609 3.644023  5.174611448 6.4144443  3.6232856
6  5.554099 1.7092628  5.2191391 2.611244  0.947948846 3.0738348  1.6301884
7  2.644614 2.5078488  0.6354940 5.473107  2.026604483 2.7263697  2.9275664
8  3.068917 2.0474694  1.1875923 4.205585  1.019221968 4.4412642  3.6628570
9  2.152073 0.9470048 -0.3981293 3.406004  0.007545559 3.1319256  2.9607136
10 2.283657 1.7411356  7.6164245 1.284512  2.805410938 4.1641072  2.2954899
          V8       V9      V10         V11      V12          V13       V14
1   0.407184 6.112701 8.384834  2.17990526 1.414776  2.328590187 2.3344712
2  -1.328209 3.153719 2.448431  3.57859868 2.219143  5.090457229 5.7880699
3   2.919506 2.456889 2.005864  1.11029338 6.508815  5.316517254 1.6860485
4   2.205208 1.646414 2.854774  1.57757428 1.814938  0.124619198 2.1979741
5   3.470972 3.276022 3.036758  3.80483549 4.055340  1.218971513 0.7565237
6   4.242457 2.634623 3.736027  1.33636477 3.278277  3.684353635 1.9759822
7   4.575248 2.058474 3.481796 -0.08044464 1.808389  2.897587745 2.0553886
8   4.047188 4.286057 3.198869  2.70668763 4.505442 -0.007142253 1.1224536
9   2.557805 7.245207 1.646302  1.02176547 1.596707  1.074544559 1.6163183
10  2.315213 2.045927 6.741196  3.25465123 2.501833  4.340390430 4.9547638
        V15        V16      V17        V18        V19       V20       V21
1  4.574878 -1.2986834 1.117713 4.05800661  2.1928998 1.7384033 2.6526802
2  3.680751  3.8531083 4.666428 3.81708631  3.3409035 0.9339552 2.1916699
3  2.257531 -0.9596802 1.435585 0.05395452  5.2451238 3.5540475 0.7601701
4  4.677329  4.8099421 2.506713 3.36000547  4.4079875 5.1489448 1.1691705
5  3.664835  5.9517043 3.862428 3.91073727 -0.4549997 2.2796783 6.0221288
6  2.590224  4.6835973 1.551481 2.58868448  2.0964425 2.8028848 2.7302658
7  5.360767  2.8378572 1.839835 2.22994115  3.0479515 1.1332514 6.8446163
8  4.869676  5.5646054 3.966555 6.51906574  1.5912351 2.5932192 1.2036857
9  1.812548  2.9618936 3.076757 3.03252293  1.2208812 2.5109699 6.4845913
10 2.966770  2.5597197 1.644971 2.75981746  4.3351241 4.0995945 1.1434739
         V22        V23       V24       V25        V26       V27         V28
1   1.873021  1.0503417 5.5687800  3.390624  5.7870714 1.5955430  2.10882830
2   7.922579  2.2941146 5.6745655  4.381673  3.3600065 3.4147407  3.10658729
```

```
3   2.623781  4.6961515 2.3851144  1.154787 -0.5396995 6.9352715  0.92271007
4   6.430224  8.5945671 5.1975667 -1.602893  3.8106261 2.7480945  2.87705619
5  -2.169040  3.0046824 2.9624362  4.081841  0.7774565 0.2101579  2.96602238
6  -1.144972 -1.2919316 2.0991638  2.456948 -0.7581963 2.5413305  1.57029557
7   4.016606  4.8147649 3.4321048  2.434080  3.4876700 3.7435494 -0.06575232
8   1.607687  0.1409696 0.1620997  2.739010  2.3464346 3.8691730  3.43470594
9   1.045535  0.2514584 3.5452844  1.666165  1.6089330 2.1584629  2.95981132
10  3.491139  3.6042472 1.5000621  4.077466  3.5046660 0.8128766  3.29250904
          V29       V30        V31       V32        V33       V34        V35
1   1.7506655 4.3215460  4.6002555  5.251034  1.1478835 6.8444582  1.4662747
2   4.1405517 5.1685247  6.6157689  4.462501  5.6771430 3.9508281  3.0117997
3  -0.7398335 0.5213447 -0.8063130  1.511739  8.7593059 1.2800669  5.9323547
4   2.1599963 1.6238376  1.1227263  3.303902  1.3574913 3.3469537  1.4817748
5   0.2661582 4.2986231  1.0971943 -1.644783 -0.3532644 4.9026591  2.1762714
6   2.3676407 6.7050010  2.5152985  4.597705  3.3050421 2.6611957  3.2351081
7   2.1463918 4.8251026  1.2121836 -1.804171  4.2097944 2.1497103  3.7223924
8   2.8839173 1.6628761  3.3592812  1.974937  5.8353523 1.7558550  0.4720766
9  -0.3653674 0.8210073  2.2782231  2.821793  7.7589940 0.9470827  0.7480519
10  2.0273323 4.2781871 -0.6681865  2.128260  5.4052746 1.1477031 -1.8176597
          V36      V37       V38         V39         V40       V41        V42
1   4.1060542 3.041295 2.3346105 -0.85748227  1.71210579 2.2215355  6.7140526
2   6.7616200 1.395860 2.5489191  3.44410810  5.42352786 2.5440494  2.3314255
3  -0.3476817 3.496576 3.8654341  3.98697719  4.75504235 4.6266129  6.5228394
4  -0.5809065 3.336552 0.4337412 -0.06832093  0.07567689 3.7999369 -0.1469199
5   1.3331278 4.787397 3.3180433  3.06436939  0.64746248 1.0793464  4.2060184
6   6.0914707 3.358859 3.5667442  4.51527102  4.26972983 1.5950452  4.6140023
7   3.4497093 1.684106 3.3112627  1.68227289  5.93887293 0.4966362  4.6842762
8   5.9138404 4.546729 0.2180196  1.30679499  3.19840992 5.6620272  3.5643768
9   0.2228864 3.286519 3.3239956  2.96052685 -0.24804890 5.7935836  2.7628377
10  3.9108401 5.477246 1.5428528  2.42769958  4.25350538 4.5935664  2.5085408
         V43       V44        V45        V46      V47        V48       V49
1  4.7890286  3.760277  3.2897860  4.6903466 4.539475  1.7348448 2.1689649
2  0.3412429  3.982113  0.3327485  4.6008817 2.292218  3.0947663 1.0515740
3  1.3944318  5.166848  4.0004584  0.5166911 3.820881  2.7919005 4.2469245
4  4.1901569  7.543858 -0.2328512  4.8836770 3.456775  0.7020809 4.8244486
5  2.2156337  3.792986  6.3052178  2.0532745 2.462449  1.6784680 1.6465729
6  2.9845966  3.858508  1.5447326  5.0124226 3.074221 -0.3818482 1.3018722
7  2.6356509  3.821469  5.0720187  5.7107015 6.665978  2.1675472 3.0472336
8  1.0163072  0.736319  2.5982118  3.1740661 1.753669  0.9207785 3.3942971
9  3.8682495  6.488739  3.9400734  4.1150912 2.848500  4.6394811 4.9524018
10 1.7866471 -1.754240  2.6922841 -1.4116295 1.808584  6.6801208 0.4271721
          V50      V51        V52      V53      V54       V55        V56
1   3.25116455 3.025545 -0.4227015 2.170755 4.794886  1.741342  5.1553054
2   1.04034825 1.840864  2.0438211 3.025972 4.679764  1.426471  2.8298857
3  -0.05996273 1.931929  2.9664800 3.653585 1.389251  4.922600  3.3176323
4   3.76669390 3.155130  2.7526173 3.528969 3.535047  1.062972 -0.1405319
5   7.23076771 5.425735  1.9316603 2.975217 3.531426  2.475295  3.6653465
6   0.20970937 2.122907  3.2977666 2.575462 6.065487 -1.519211  3.1280315
7   2.24562462 5.519185  1.0681257 1.407129 3.747054  3.118931  5.6289093
```

```
8   3.78605962 3.604337  2.3687097 2.723105 3.406636  1.680929  2.5309491
9   3.28826408 4.268839  1.7489772 2.729306 5.017531  2.857333  7.7812044
10  0.64832358 3.017584  5.5528377 2.075765 1.152347  5.008991  2.0777782
         V57       V58      V59         V60       V61       V62       V63
1  2.5622372 5.9809646 2.917100  3.97122125 3.596582 3.2411811 2.388085
2  2.5446191 2.6608045 5.757696  4.95295409 3.271231 1.9457109 2.486861
3  2.0863367 5.2719281 3.587938 -0.00127362 1.497754 2.3008926 5.451589
4  2.5082990 3.7564354 2.840686  3.90613386 2.768755 2.8375727 1.891642
5  5.0505626 2.7676325 3.531017  1.07198683 1.745862 0.2369313 2.544830
6  3.3223952 3.5540809 5.333315  1.53021798 2.008449 2.3222360 2.001228
7  4.7932919 7.1112611 5.520150  2.77911098 4.548240 1.3245984 4.257262
8  4.4155114 0.4389107 2.816962  3.00625461 5.327572 2.7764063 3.833075
9  0.0120211 3.1739269 8.429146  3.40517273 3.796506 3.3942201 2.784365
10 7.3796294 6.6964398 5.279210 -0.09915935 3.690191 0.5169962 1.990405
           V64       V65       V66        V67       V68        V69         V70
1   4.13615670 0.4442943 0.8913629 1.94422754 5.8449677 -0.3647683  1.37697643
2  -1.58293180 2.9336166 4.0757676 1.01745594 3.8649494  4.2156274  4.15689936
3   2.52743199 1.7647263 6.1467039 1.28390942 3.6181639  3.9124811  4.96525796
4   0.05109325 5.3104826 1.1045748 4.96211265 4.5057912 -0.4632675  2.01471016
5   1.69168608 0.1800304 2.3648874 4.16751429 1.9707352  4.1234881  5.37663203
6   0.78943545 3.3426730 4.8055680 5.26825607 1.8808785  4.4267114 -0.28722791
7   5.65210347 5.0250903 5.9371462 0.05960293 2.9678798  2.7694883 -0.03021229
8   4.83455010 4.5608496 8.2481384 3.71027607 1.2724549  1.6680417  3.75376072
9   2.24469518 0.6291585 7.1807942 3.98586547 0.4228104  2.1461638  3.19033172
10  4.34911821 3.5222799 3.6393117 2.59069902 1.9821037  2.4122922  3.14075955
        V71      V72       V73      V74      V75        V76       V77        V78
1  2.653000 1.644762 4.6246716 3.991020 2.206028  3.5910433 1.8657185  4.928750
2  2.383511 4.525246 2.7756354 6.052837 3.320692  2.4362803 1.1893796  3.854873
3  3.383917 1.421936 5.5460794 3.711334 2.702936  3.7509715 1.4734378  4.080441
4  3.371665 2.154449 4.9128926 3.117504 1.419055  5.3272050 6.4363516  4.846798
5  1.825894 2.551952 1.9071196 3.787735 4.469298  0.9075318 4.2189660 -1.583989
6  1.448278 2.640657 0.2636272 5.191913 1.970097 -0.1998171 3.1299285  3.637146
7  4.408202 3.149508 4.0059429 2.388608 2.083638  1.4082752 2.4535206  3.022384
8  1.184809 2.035660 4.4898819 5.176142 3.514051  1.4914894 0.4366745  4.005390
9  3.091898 5.663486 4.0934165 6.665067 2.385966  1.6417989 4.0614436  1.091053
10 2.726215 3.297124 0.8506750 2.702163 1.812377  3.4391551 0.2040761  1.084389
          V79        V80       V81      V82        V83         V84       V85
1   3.8790200  2.5437692 2.2524953 4.225144  0.2095015  2.70122083 2.0475376
2  -0.3947430 -0.5332215 3.3948097 1.997513  1.9178155  2.19675110 0.9780121
3   0.9418838  0.9205903 0.7798029 1.223900  0.9895919  2.08198265 2.5792280
4   3.3678211  4.9857434 3.8750807 2.904080  0.8941439  3.54306705 5.7364460
5   3.0239842  4.1201419 1.4292359 6.488426  6.6015097  4.77971752 5.6834516
6  -1.5339768  6.1357988 2.7381128 2.564116  4.9270320  1.25866202 2.3434416
7   1.4769635  2.2272477 3.8663471 4.620772  3.1974957 -0.02487912 4.7532532
8   2.6215385  2.4900630 1.6831936 6.676258 -0.5274403  1.98381001 2.8948100
9   2.0867775  3.9867530 5.9717727 2.415344  5.6881787  6.79877923 3.9093253
10 -0.8096966  5.8539910 2.7523683 4.025911  8.2399421  3.40702972 2.0161469
          V86       V87       V88       V89        V90       V91       V92
1  -0.3378318 2.7959297 1.1975647 7.3572460 -0.6636989 0.7448434 5.9671113
```

```
2  -0.1114934 2.4344900 2.1314961 6.2941624  2.7471363 5.3263052 4.5732766
3   0.8350327 0.5938185 4.0683762 1.3867271  6.9849842 2.2424125 2.3295508
4   4.8104351 1.1660275 3.4912110 2.6977163  6.4319645 5.2988586 5.7335074
5   1.4674078 3.0767170 2.9296888 3.6620046  2.8671132 0.4176666 3.8779858
6   5.3142546 2.6540958 1.7726798 5.2548943  0.3162831 4.9780985 0.8873021
7   3.3410843 0.6555509 2.7615510 1.6881276  2.3746806 1.7861063 6.0148623
8   7.2143368 8.4693922 2.4226974 3.1079343  4.3419617 2.9109270 1.6083709
9   0.5081064 2.3066171 5.1327453 4.5559604  2.5558039 7.1979965 5.1707074
10  3.2074628 2.5874525 0.2077704 0.9006323 -2.2796245 4.0491785 4.1217758
         V93       V94        V95      V96       V97        V98      V99
1  4.1523496 3.1618684  2.7839281 3.312846 3.2951012  6.0072831 4.804599
2  4.7310487 1.6080800  4.7479149 1.611182 0.2004316  6.3277553 4.167178
3  2.0410247 0.7548544 -0.6606016 2.631430 0.9879832  2.6511494 3.707744
4  4.0852420 2.5571533  1.6570499 1.897088 0.9888183 -0.8345515 4.680412
5  0.3787523 2.3597483  3.5572882 2.962659 2.8026193  5.0665866 1.499606
6  1.6615864 1.3153479  3.1771411 3.034062 2.3001511 -1.8222632 4.249876
7  3.2588701 2.8853193  1.7314847 2.578143 0.3910590  3.2454249 2.438819
8  3.9880093 6.4169166  4.5193518 3.950788 1.3009226  4.2593044 2.144376
9  1.8657104 2.8660945  1.8743993 7.247933 4.1718854  2.2529492 2.505403
10 2.6097130 2.3022518  4.1943856 5.007393 1.4094859  4.8697843 3.836393
         V100
1  -1.2526544
2   5.7871344
3   4.7429541
4   3.0633341
5   3.4801349
6   3.7487709
7   3.3296615
8   2.1940113
9   0.1714356
10  4.5864973

> class(x2)

[1] "data.frame"

> y <- x1[3, ]
> y

  [1]  1.28268031  1.67219790  3.33378524  2.97709928 -0.56527132  3.77394737
  [7]  3.40792039  2.91950618  2.45688912  2.00586403  1.11029338  6.50881465
 [13]  5.31651725  1.68604853  2.25753057 -0.95968016  1.43558460  0.05395452
 [19]  5.24512377  3.55404751  0.76017007  2.62378116  4.69615150  2.38511436
 [25]  1.15478718 -0.53969945  6.93527147  0.92271007 -0.73983351  0.52134472
 [31] -0.80631299  1.51173931  8.75930590  1.28006686  5.93235470 -0.34768170
 [37]  3.49657646  3.86543412  3.98697719  4.75504235  4.62661293  6.52283938
 [43]  1.39443182  5.16684798  4.00045838  0.51669115  3.82088065  2.79190050
 [49]  4.24692450 -0.05996273  1.93192892  2.96648000  3.65358452  1.38925072
 [55]  4.92260044  3.31763234  2.08633675  5.27192810  3.58793848 -0.00127362
 [61]  1.49775372  2.30089257  5.45158874  2.52743199  1.76472626  6.14670386
```

```
 [67]  1.28390942  3.61816385  3.91248111  4.96525796  3.38391718  1.42193590
 [73]  5.54607938  3.71133423  2.70293565  3.75097154  1.47343780  4.08044122
 [79]  0.94188382  0.92059029  0.77980288  1.22390023  0.98959189  2.08198265
 [85]  2.57922797  0.83503267  0.59381846  4.06837617  1.38672711  6.98498425
 [91]  2.24241252  2.32955078  2.04102473  0.75485440 -0.66060161  2.63143048
 [97]  0.98798320  2.65114945  3.70774409  4.74295414
```

```
> y <- x1[, -1]
> y
```

```
           [,1]       [,2]     [,3]         [,4]      [,5]       [,6]       [,7]
 [1,] 6.4554983  3.5641455 1.755244  2.213945114 0.7460121  3.4618856  0.407184
 [2,] 2.4146853  4.6381329 4.326031  2.059594595 1.4670400  4.3832432 -1.328209
 [3,] 1.6721979  3.3337852 2.977099 -0.565271321 3.7739474  3.4079204  2.919506
 [4,] 4.0858683  2.8131000 1.939406  4.628772533 0.9474715 -0.1489538  2.205208
 [5,] 0.5652191  7.5344609 3.644023  5.174611448 6.4144443  3.6232856  3.470972
 [6,] 1.7092628  5.2191391 2.611244  0.947948846 3.0738348  1.6301884  4.242457
 [7,] 2.5078488  0.6354940 5.473107  2.026604483 2.7263697  2.9275664  4.575248
 [8,] 2.0474694  1.1875923 4.205585  1.019221968 4.4412642  3.6628570  4.047188
 [9,] 0.9470048 -0.3981293 3.406004  0.007545559 3.1319256  2.9607136  2.557805
[10,] 1.7411356  7.6164245 1.284512  2.805410938 4.1641072  2.2954899  2.315213
          [,8]     [,9]       [,10]    [,11]        [,12]     [,13]    [,14]
 [1,] 6.112701 8.384834  2.17990526 1.414776  2.328590187 2.3344712 4.574878
 [2,] 3.153719 2.448431  3.57859868 2.219143  5.090457229 5.7880699 3.680751
 [3,] 2.456889 2.005864  1.11029338 6.508815  5.316517254 1.6860485 2.257531
 [4,] 1.646414 2.854774  1.57757428 1.814938  0.124619198 2.1979741 4.677329
 [5,] 3.276022 3.036758  3.80483549 4.055340  1.218971513 0.7565237 3.664835
 [6,] 2.634623 3.736027  1.33636477 3.278277  3.684353635 1.9759822 2.590224
 [7,] 2.058474 3.481796 -0.08044464 1.808389  2.897587745 2.0553886 5.360767
 [8,] 4.286057 3.198869  2.70668763 4.505442 -0.007142253 1.1224536 4.869676
 [9,] 7.245207 1.646302  1.02176547 1.596707  1.074544559 1.6163183 1.812548
[10,] 2.045927 6.741196  3.25465123 2.501833  4.340390430 4.9547638 2.966770
          [,15]    [,16]      [,17]      [,18]     [,19]     [,20]      [,21]
 [1,] -1.2986834 1.117713 4.05800661  2.1928998 1.7384033 2.6526802  1.873021
 [2,]  3.8531083 4.666428 3.81708631  3.3409035 0.9339552 2.1916699  7.922579
 [3,] -0.9596802 1.435585 0.05395452  5.2451238 3.5540475 0.7601701  2.623781
 [4,]  4.8099421 2.506713 3.36000547  4.4079875 5.1489448 1.1691705  6.430224
 [5,]  5.9517043 3.862428 3.91073727 -0.4549997 2.2796783 6.0221288 -2.169040
 [6,]  4.6835973 1.551481 2.58868448  2.0964425 2.8028848 2.7302658 -1.144972
 [7,]  2.8378572 1.839835 2.22994115  3.0479515 1.1332514 6.8446163  4.016606
 [8,]  5.5646054 3.966555 6.51906574  1.5912351 2.5932192 1.2036857  1.607687
 [9,]  2.9618936 3.076757 3.03252293  1.2208812 2.5109699 6.4845913  1.045535
[10,]  2.5597197 1.644971 2.75981746  4.3351241 4.0995945 1.1434739  3.491139
          [,22]     [,23]     [,24]      [,25]     [,26]       [,27]
 [1,]  1.0503417 5.5687800  3.390624  5.7870714 1.5955430  2.10882830
 [2,]  2.2941146 5.6745655  4.381673  3.3600065 3.4147407  3.10658729
 [3,]  4.6961515 2.3851144  1.154787 -0.5396995 6.9352715  0.92271007
 [4,]  8.5945671 5.1975667 -1.602893  3.8106261 2.7480945  2.87705619
 [5,]  3.0046824 2.9624362  4.081841  0.7774565 0.2101579  2.96602238
```

```
 [6,] -1.2919316 2.0991638  2.456948 -0.7581963 2.5413305  1.57029557
 [7,]  4.8147649 3.4321048  2.434080  3.4876700 3.7435494 -0.06575232
 [8,]  0.1409696 0.1620997  2.739010  2.3464346 3.8691730  3.43470594
 [9,]  0.2514584 3.5452844  1.666165  1.6089330 2.1584629  2.95981132
[10,]  3.6042472 1.5000621  4.077466  3.5046660 0.8128766  3.29250904
           [,28]     [,29]      [,30]     [,31]      [,32]     [,33]      [,34]
 [1,]  1.7506655 4.3215460  4.6002555  5.251034  1.1478835 6.8444582  1.4662747
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[609] 6.294162 2.697716 3.662005 5.254894 3.107934 4.555960 2.747136 6.984984
[617] 6.431965 2.867113 2.374681 4.341962 2.555804 5.326305 2.242413 5.298859
[625] 4.978098 2.910927 7.197997 4.049179 5.967111 4.573277 2.329551 5.733507
[633] 3.877986 6.014862 5.170707 4.121776 4.152350 4.731049 2.041025 4.085242
[641] 3.258870 3.988009 2.609713 3.161868 2.557153 2.359748 2.885319 6.416917
[649] 2.866094 2.302252 2.783928 4.747915 3.557288 3.177141 4.519352 4.194386
[657] 3.312846 2.631430 2.962659 3.034062 2.578143 3.950788 7.247933 5.007393
[665] 3.295101 2.802619 2.300151 4.171885 6.007283 6.327755 2.651149 5.066587
[673] 3.245425 4.259304 2.252949 4.869784 4.804599 4.167178 3.707744 4.680412
[681] 4.249876 2.438819 2.144376 2.505403 3.836393 5.787134 4.742954 3.063334
[689] 3.480135 3.748771 3.329662 2.194011 4.586497
```

```
> getwd()
```

```
[1] "/home/juan/Documentos/ExampleSweave"
```

Leyendo Tablas

```
> read.table("data.txt")
```

```
     V1   V2    V3
1  sexo peso talla
2     h   60   170
3     f   57   169
4     f   51   172
5     f   55   174
6     f   50   168
7     f   50   161
8     f   48   162
9     h   72   189
10    f   52   160
11    h   64   175
12    f   53   165
13    h   72   164
14    h   61   175
15    h   78   184
16    h   68   178
17    f   51   158
18    f   53   164
```

19	h	79	179
20	h	74	182
21	h	62	174
22	f	49	158
23	f	50	163
24	h	74	172
25	h	60	185
26	f	53	170
27	h	73	178
28	h	70	180
29	h	72	189
30	f	70	172
31	f	62	174
32	h	77	200
33	h	70	178
34	h	76	178
35	f	51	169
36	f	52	170
37	f	57	160
38	f	53	163
39	f	55	168
40	f	66	172
41	h	65	175
42	h	75	180
43	f	50	162
44	f	53	177
45	h	55	169
46	h	55	173
47	h	72	182
48	h	75	183
49	h	73	184
50	h	71	181
51	h	66	180
52	h	71	178
53	h	79	178
54	h	62	168
55	f	47	161
56	h	73	171
57	h	72	180
58	h	60	174
59	h	67	175
60	h	85	182
61	h	73	181
62	h	82	188
63	h	86	182
64	h	85	189
65	h	65	178
66	f	47	150
67	h	74	186

```
> read.table("data.txt")[1:5, ]
```

```
    V1   V2    V3
1 sexo peso talla
2    h   60   170
3    f   57   169
4    f   51   172
5    f   55   174
```

```
> read.table("data.txt", header=TRUE)
```

```
   sexo peso talla
1     h   60   170
2     f   57   169
3     f   51   172
4     f   55   174
5     f   50   168
6     f   50   161
7     f   48   162
8     h   72   189
9     f   52   160
10    h   64   175
11    f   53   165
12    h   72   164
13    h   61   175
14    h   78   184
15    h   68   178
16    f   51   158
17    f   53   164
18    h   79   179
19    h   74   182
20    h   62   174
21    f   49   158
22    f   50   163
23    h   74   172
24    h   60   185
25    f   53   170
26    h   73   178
27    h   70   180
28    h   72   189
29    f   70   172
30    f   62   174
31    h   77   200
32    h   70   178
33    h   76   178
34    f   51   169
35    f   52   170
36    f   57   160
37    f   53   163
38    f   55   168
```

```
39    f   66   172
40    h   65   175
41    h   75   180
42    f   50   162
43    f   53   177
44    h   55   169
45    h   55   173
46    h   72   182
47    h   75   183
48    h   73   184
49    h   71   181
50    h   66   180
51    h   71   178
52    h   79   178
53    h   62   168
54    f   47   161
55    h   73   171
56    h   72   180
57    h   60   174
58    h   67   175
59    h   85   182
60    h   73   181
61    h   82   188
62    h   86   182
63    h   85   189
64    h   65   178
65    f   47   150
66    h   74   186
```

```
> data <- read.table("data.txt", header=TRUE)
> data
```

```
   sexo peso talla
1     h   60   170
2     f   57   169
3     f   51   172
4     f   55   174
5     f   50   168
6     f   50   161
7     f   48   162
8     h   72   189
9     f   52   160
10    h   64   175
11    f   53   165
12    h   72   164
13    h   61   175
14    h   78   184
15    h   68   178
16    f   51   158
```

17	f	53	164
18	h	79	179
19	h	74	182
20	h	62	174
21	f	49	158
22	f	50	163
23	h	74	172
24	h	60	185
25	f	53	170
26	h	73	178
27	h	70	180
28	h	72	189
29	f	70	172
30	f	62	174
31	h	77	200
32	h	70	178
33	h	76	178
34	f	51	169
35	f	52	170
36	f	57	160
37	f	53	163
38	f	55	168
39	f	66	172
40	h	65	175
41	h	75	180
42	f	50	162
43	f	53	177
44	h	55	169
45	h	55	173
46	h	72	182
47	h	75	183
48	h	73	184
49	h	71	181
50	h	66	180
51	h	71	178
52	h	79	178
53	h	62	168
54	f	47	161
55	h	73	171
56	h	72	180
57	h	60	174
58	h	67	175
59	h	85	182
60	h	73	181
61	h	82	188
62	h	86	182
63	h	85	189
64	h	65	178
65	f	47	150

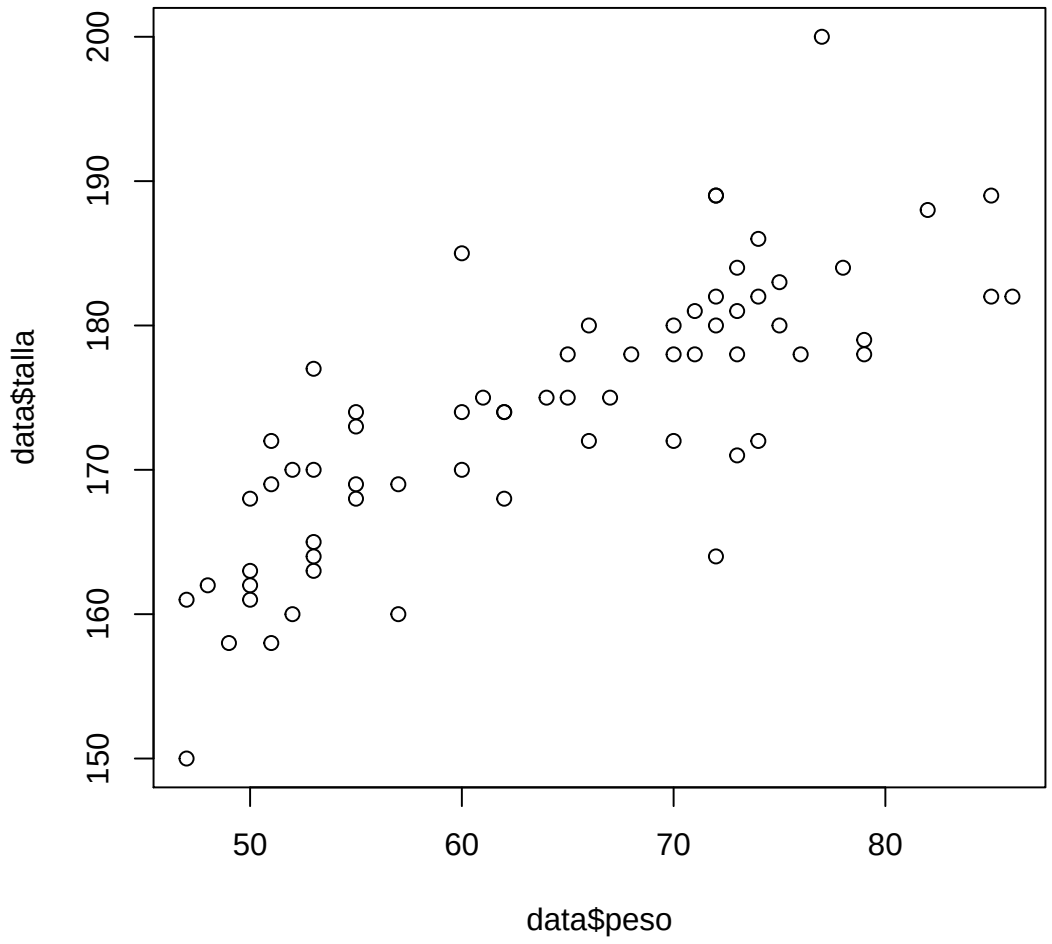
```
66    h   74   186
```

Para caracterizar los datos y realizar gráficas

```
> summary(data)
```

```
 sexo        peso           talla
 f:25   Min.   :47.00   Min.   :150.0
 h:41   1st Qu.:53.00   1st Qu.:168.2
        Median :65.00   Median :174.5
        Mean   :64.21   Mean   :174.1
        3rd Qu.:73.00   3rd Qu.:180.0
        Max.   :86.00   Max.   :200.0
```

```
> plot(data$peso, data$talla)
```



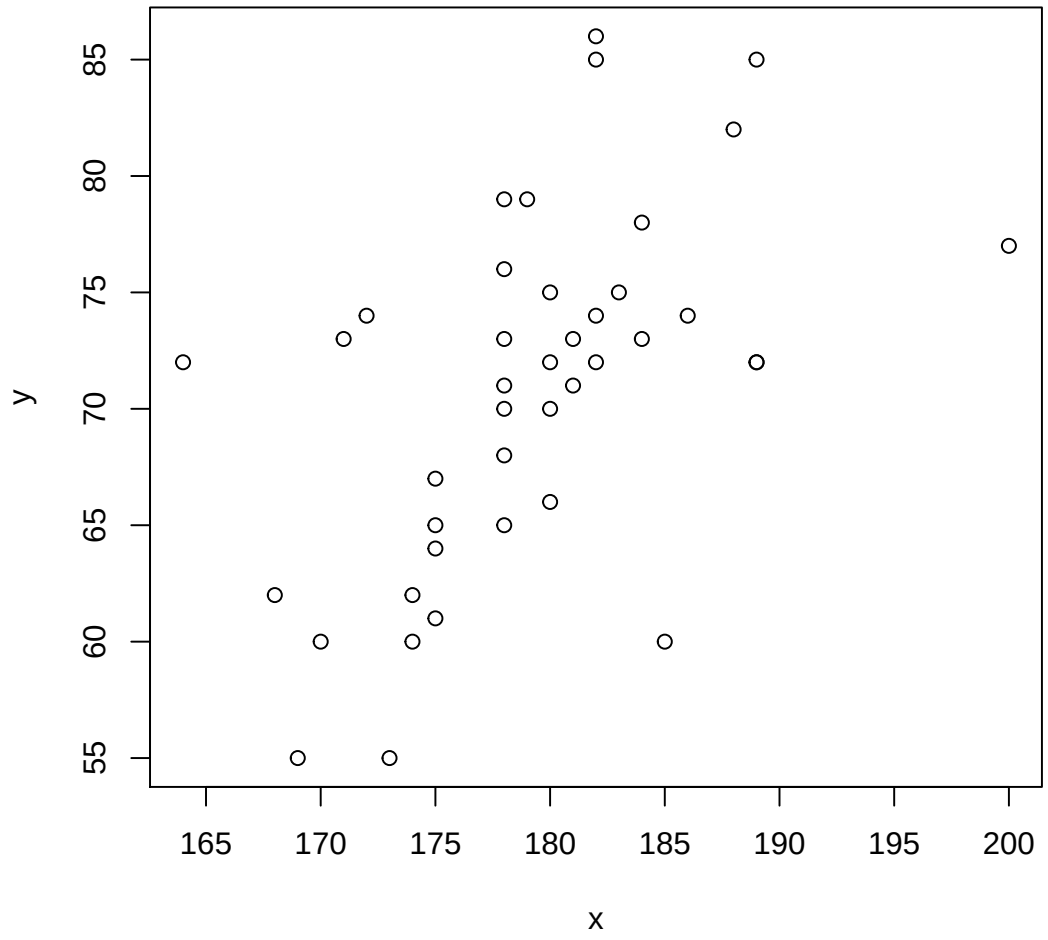

```
> x <- data$talla[data$sexo == "h"]
> x
```

```
 [1] 170 189 175 164 175 184 178 179 182 174 172 185 178 180 189 200 178 178 175
[20] 180 169 173 182 183 184 181 180 178 178 168 171 180 174 175 182 181 188 182
[39] 189 178 186
```

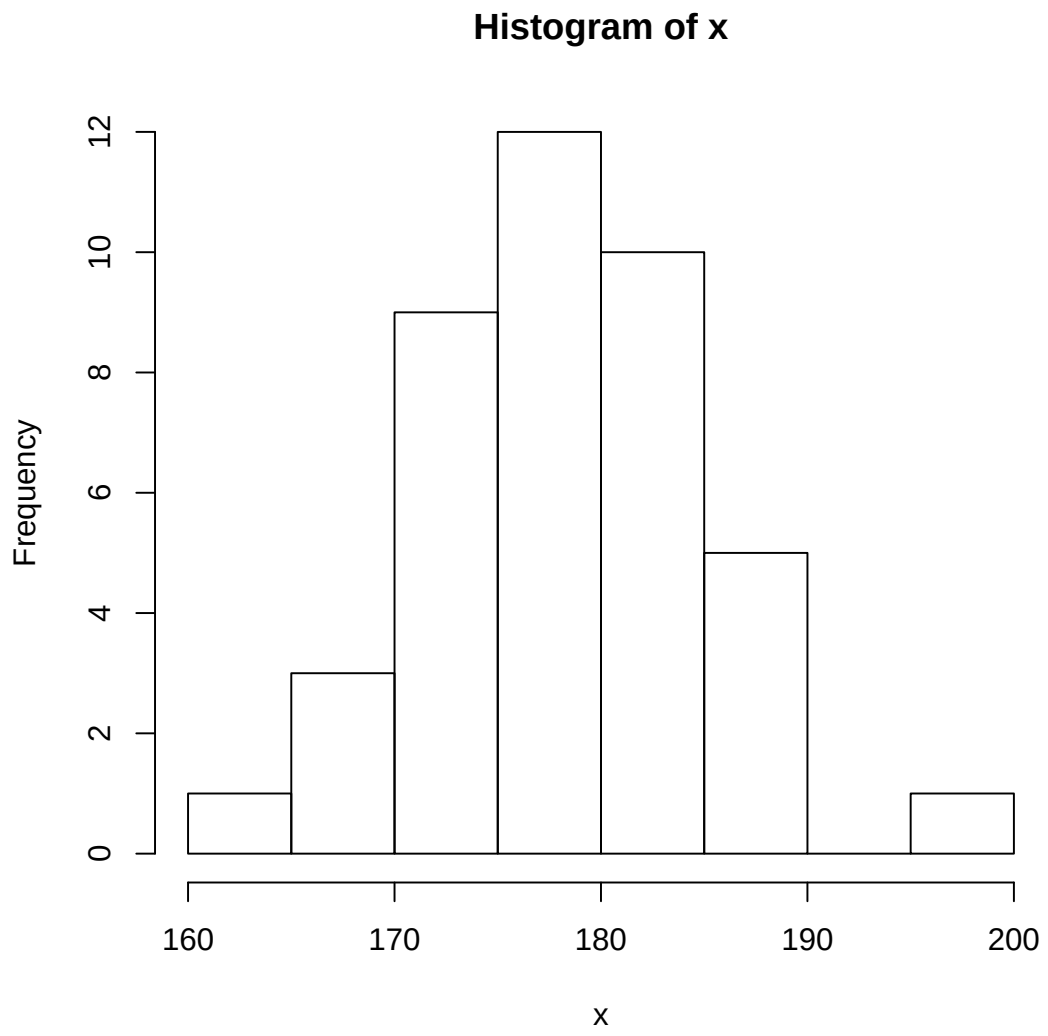
```
> y <- data$peso[data$sexo == "h"]
> y
```

```
 [1] 60 72 64 72 61 78 68 79 74 62 74 60 73 70 72 77 70 76 65 75 55 55 72 75 73
[26] 71 66 71 79 62 73 72 60 67 85 73 82 86 85 65 74
```

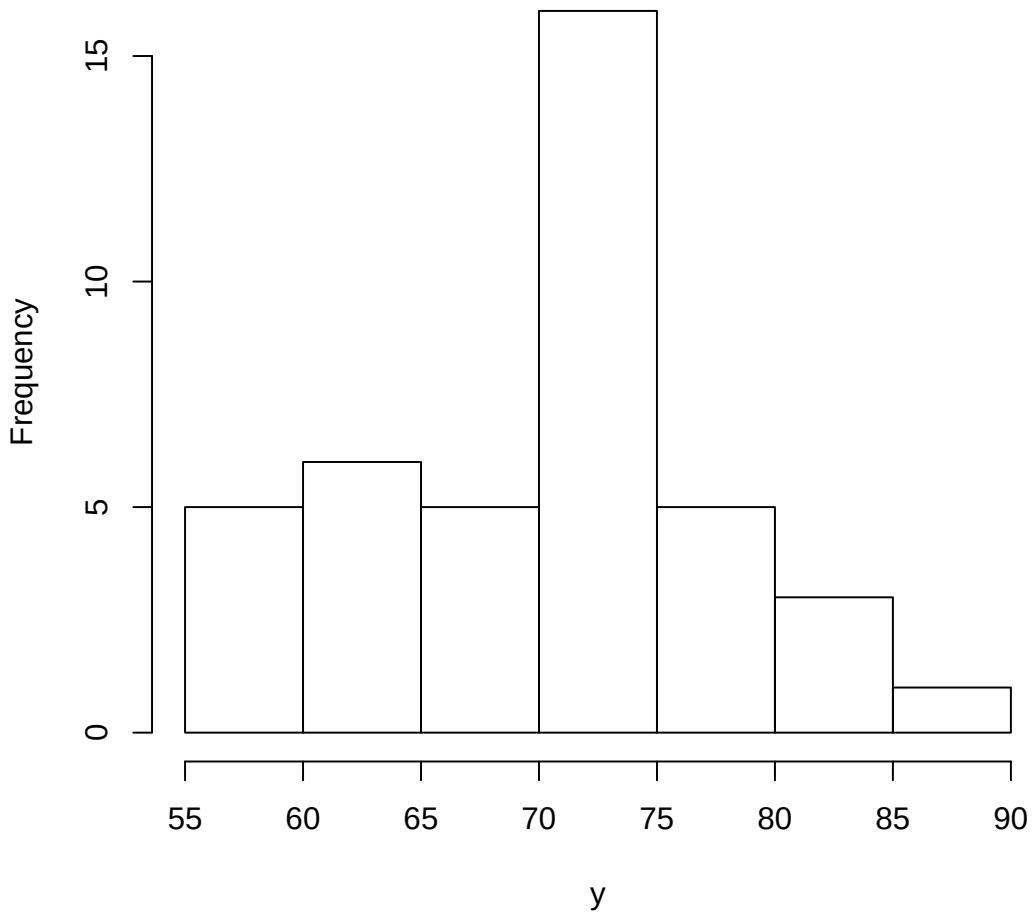
```
> plot(x, y)
```



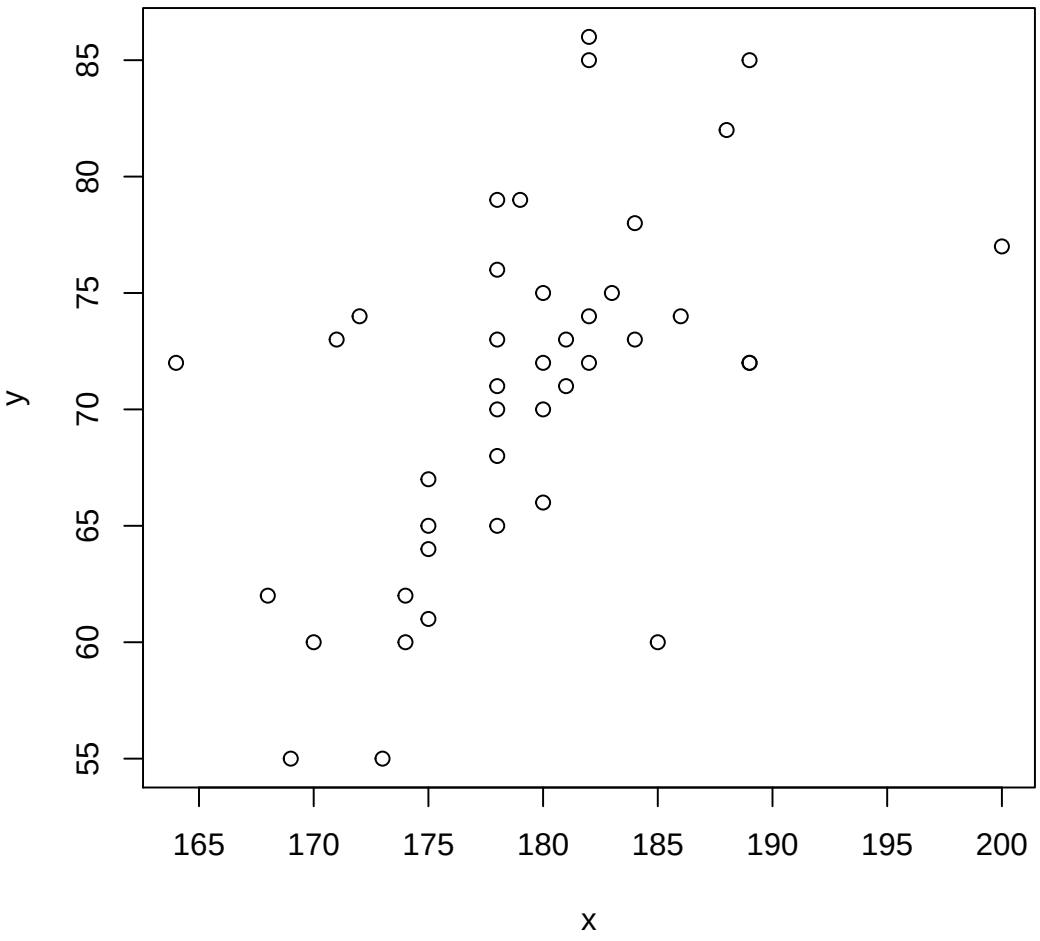

```
> hist(x)
```



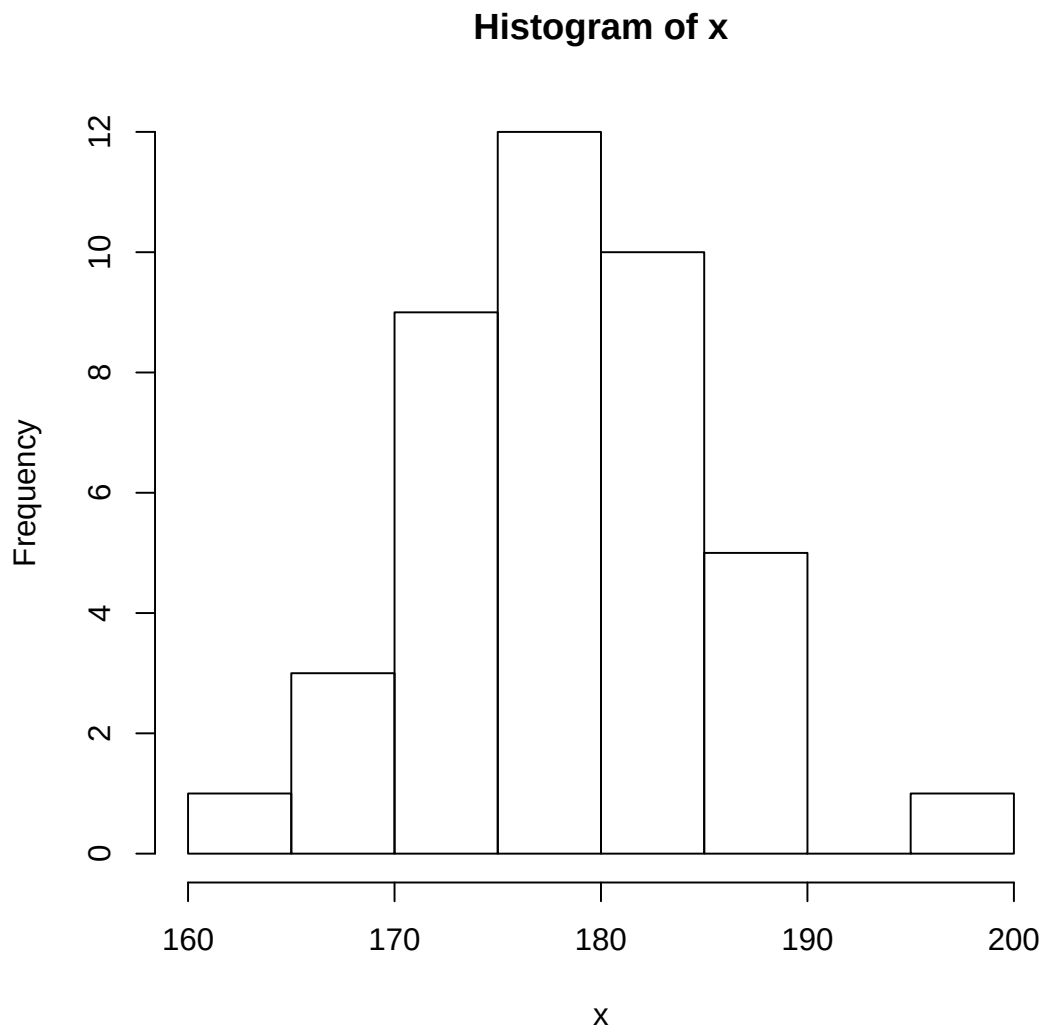

```
> hist(y)
```



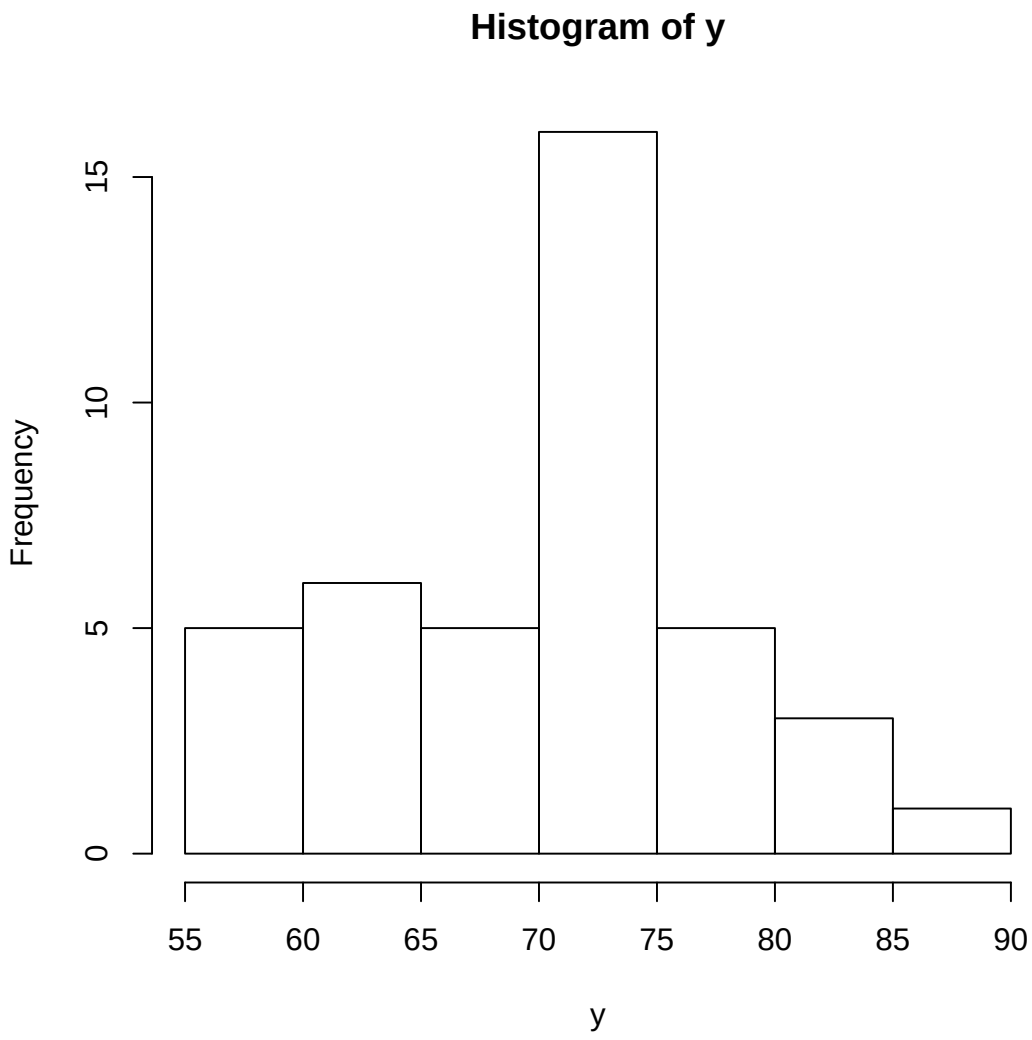

```
> par(mfrow = c(2, 2))
> x <- data$talla[data$sexo == "h"]
> x

 [1] 170 189 175 164 175 184 178 179 182 174 172 185 178 180 189 200 178 178 175
[20] 180 169 173 182 183 184 181 180 178 178 168 171 180 174 175 182 181 188 182
[39] 189 178 186

> y <- data$peso[data$sexo == "h"]
> y

 [1] 60 72 64 72 61 78 68 79 74 62 74 60 73 70 72 77 70 76 65 75 55 55 72 75 73
[26] 71 66 71 79 62 73 72 60 67 85 73 82 86 85 65 74

> plot(x, y)
```



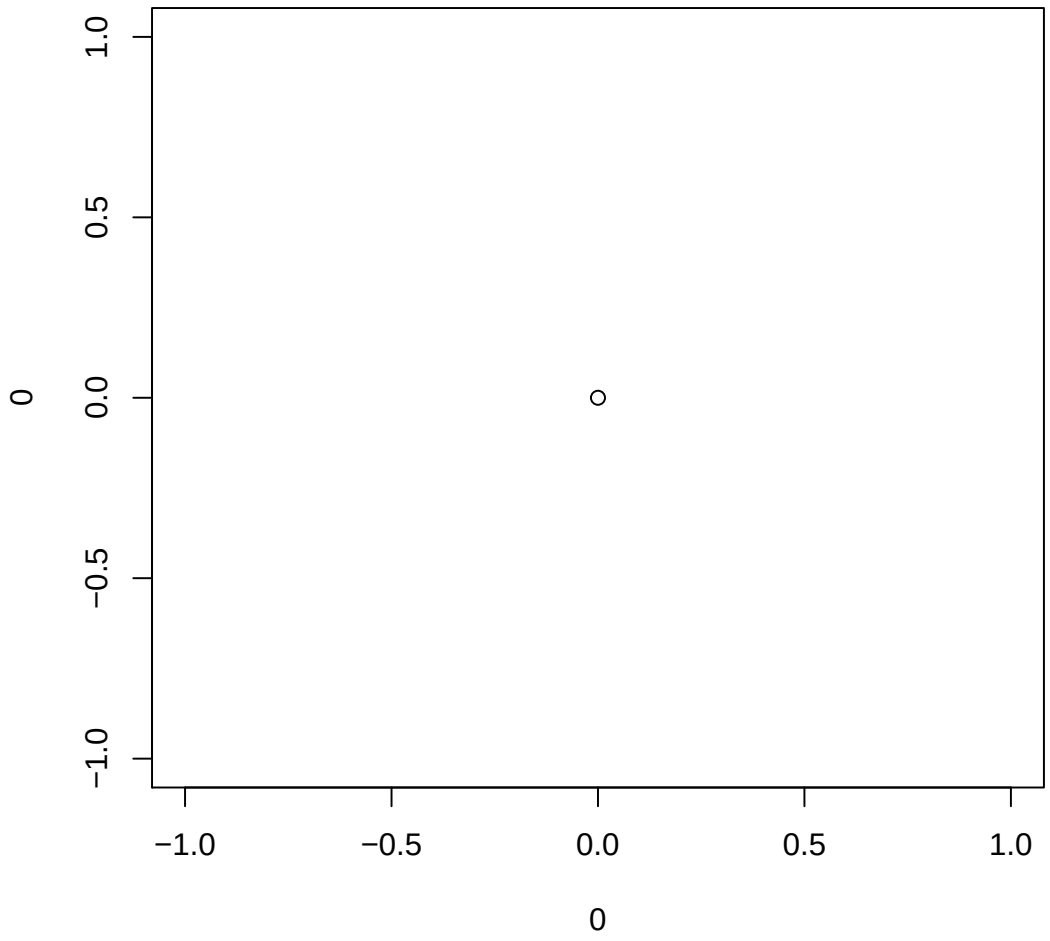

```
> hist(x)
```



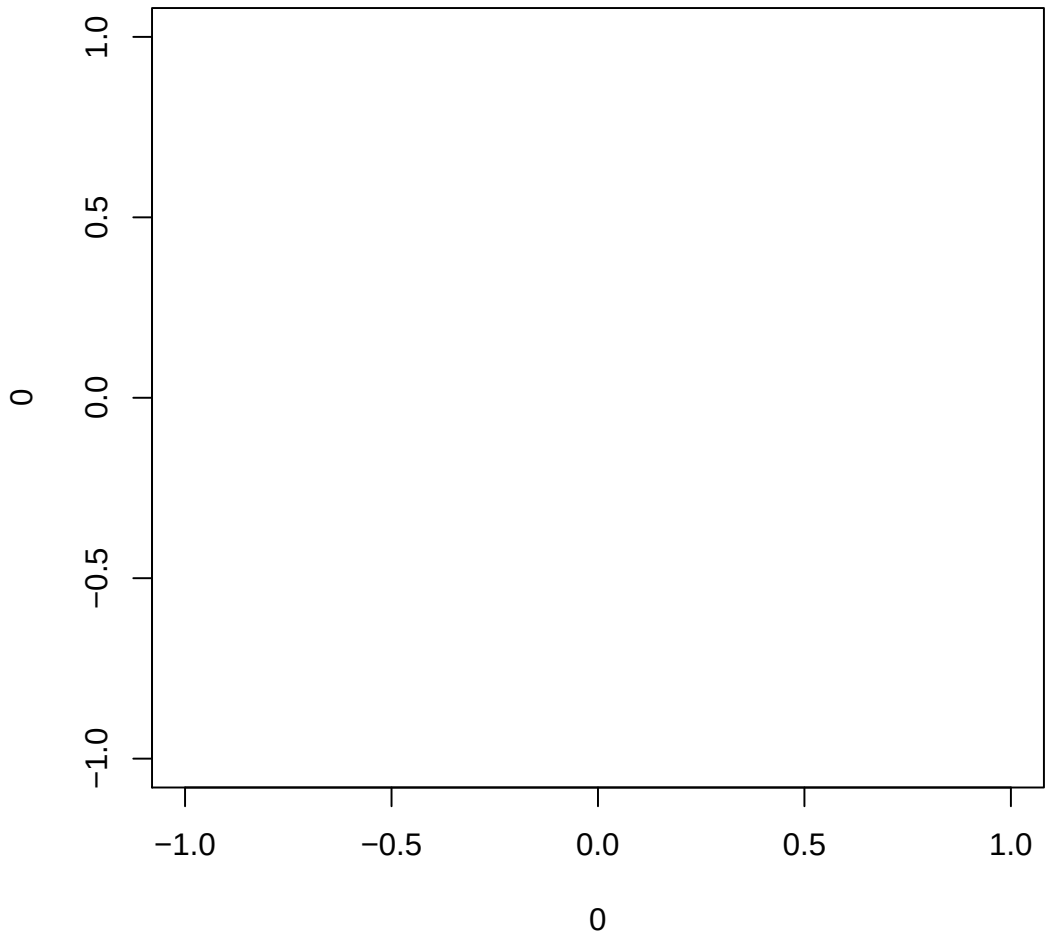

```
> hist(y)
```



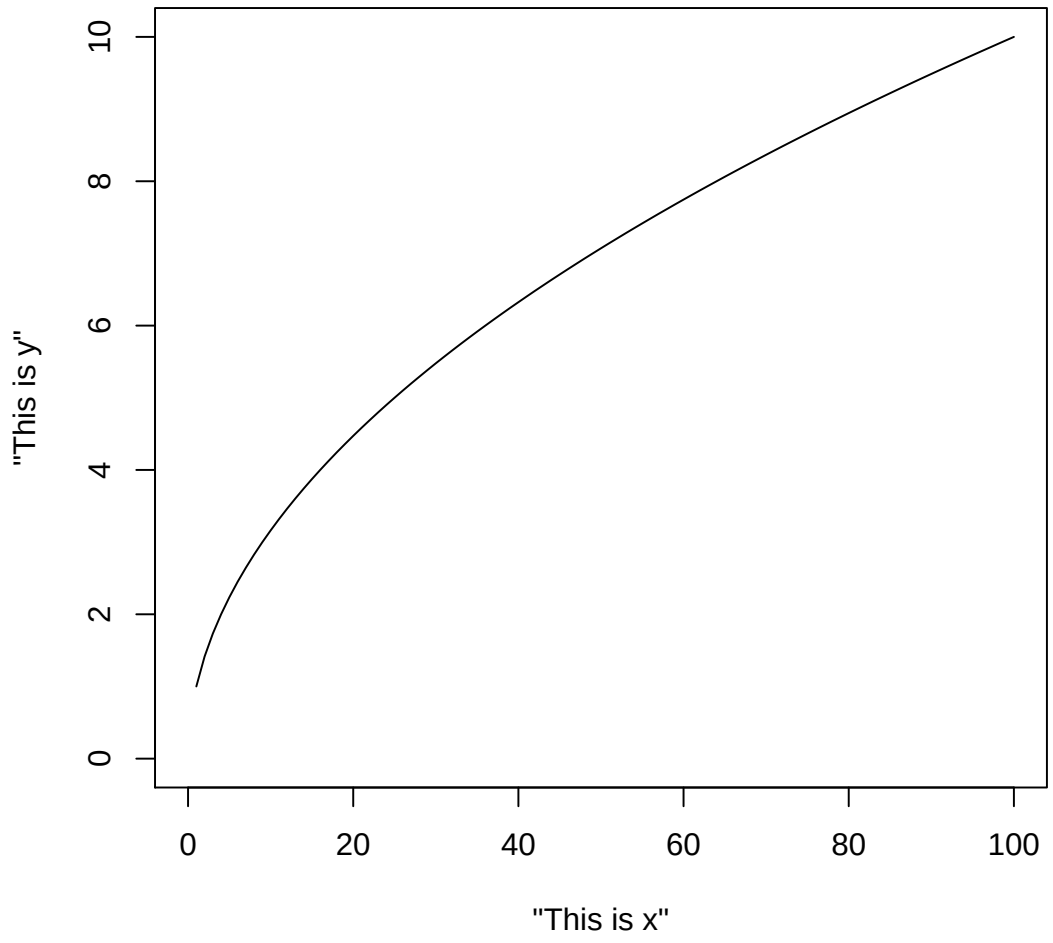

```
> plot(0,0)
```




```
> plot(0,0, type="n")
```



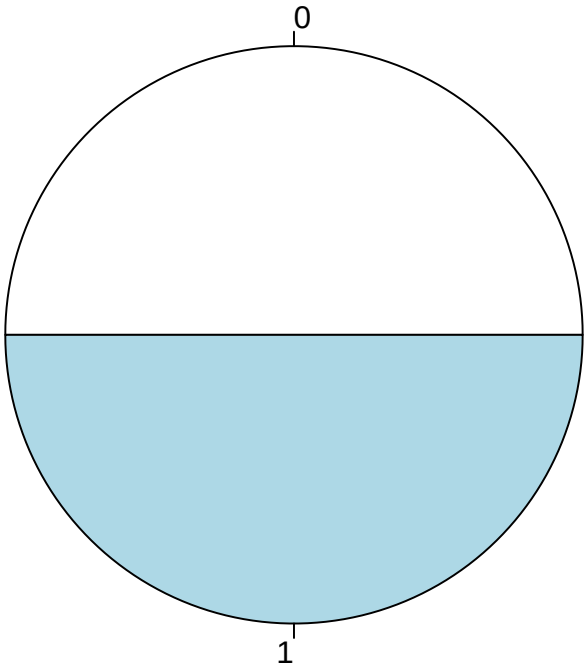

```
> plot('This is x','This is y', type="n", xlim=c(0,100),ylim=c(0,10))
> lines(1:100,sqrt(1:100))
> title("raiz cuadrada")
```



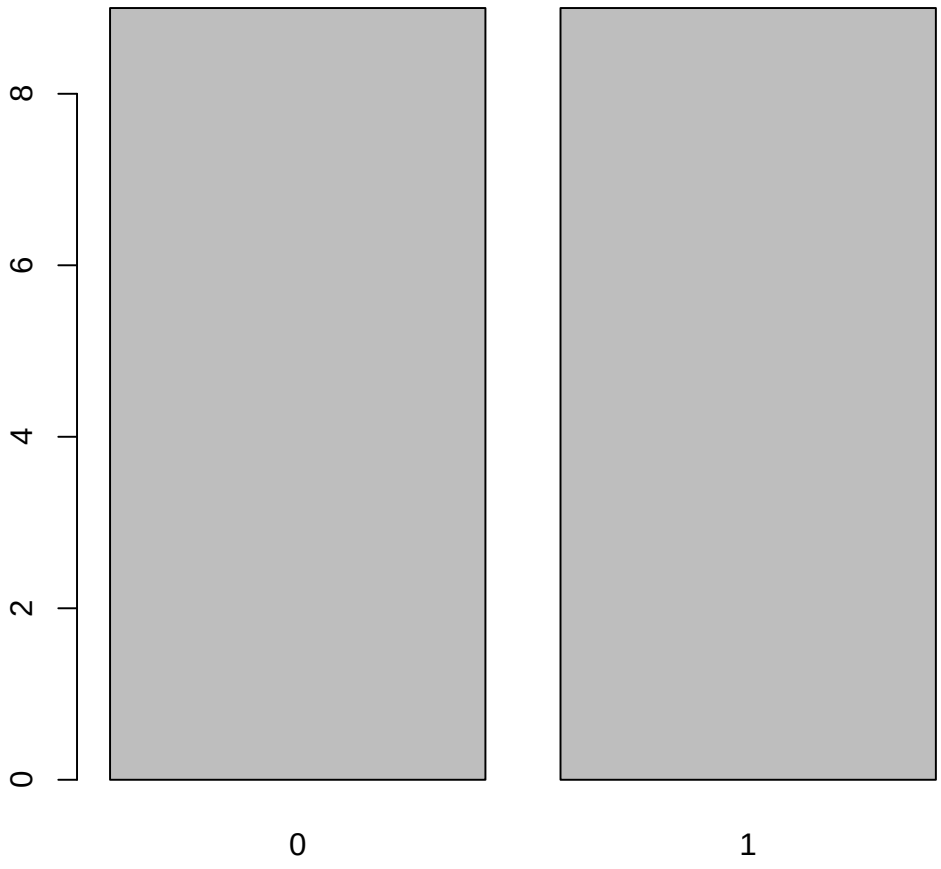
Cuidado con las variables cualitativas

```
> #class(sexo)
> #class(peso)
> sitio<-c(1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0)
> sitio

 [1] 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0

> summary(sitio)

   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
    0.0     0.0     0.5     0.5     1.0     1.0

> summary(as.factor(sitio))

0 1
9 9
```

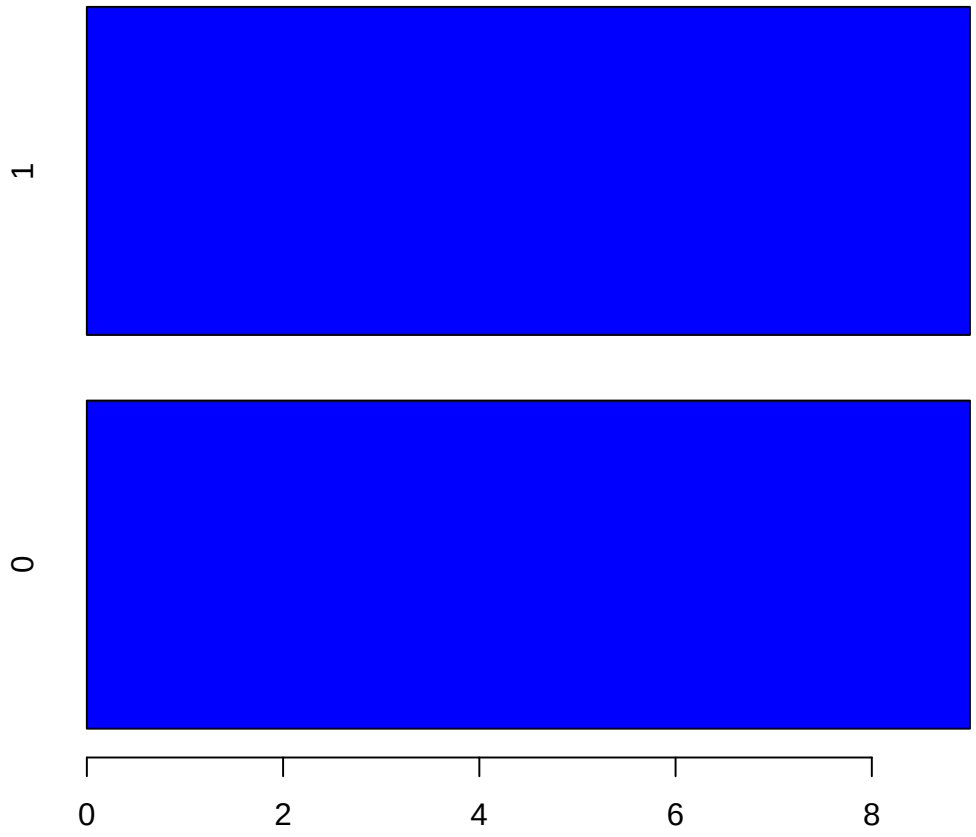
```
> sitio<-c(1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,NA,NA,NA)
> sitio

 [1]  1  1  1  1  1  1  1  1  1  0  0  0  0  0  0  0  0  0 NA NA NA

> summary(as.factor(sitio))

   0    1 NA's
   9    9    3

> summary(as.factor(na.omit(sitio)))

0 1
9 9

> pie(summary(as.factor(na.omit(sitio))))
```




```
> barplot(summary(as.factor(na.omit(sitio))))
```

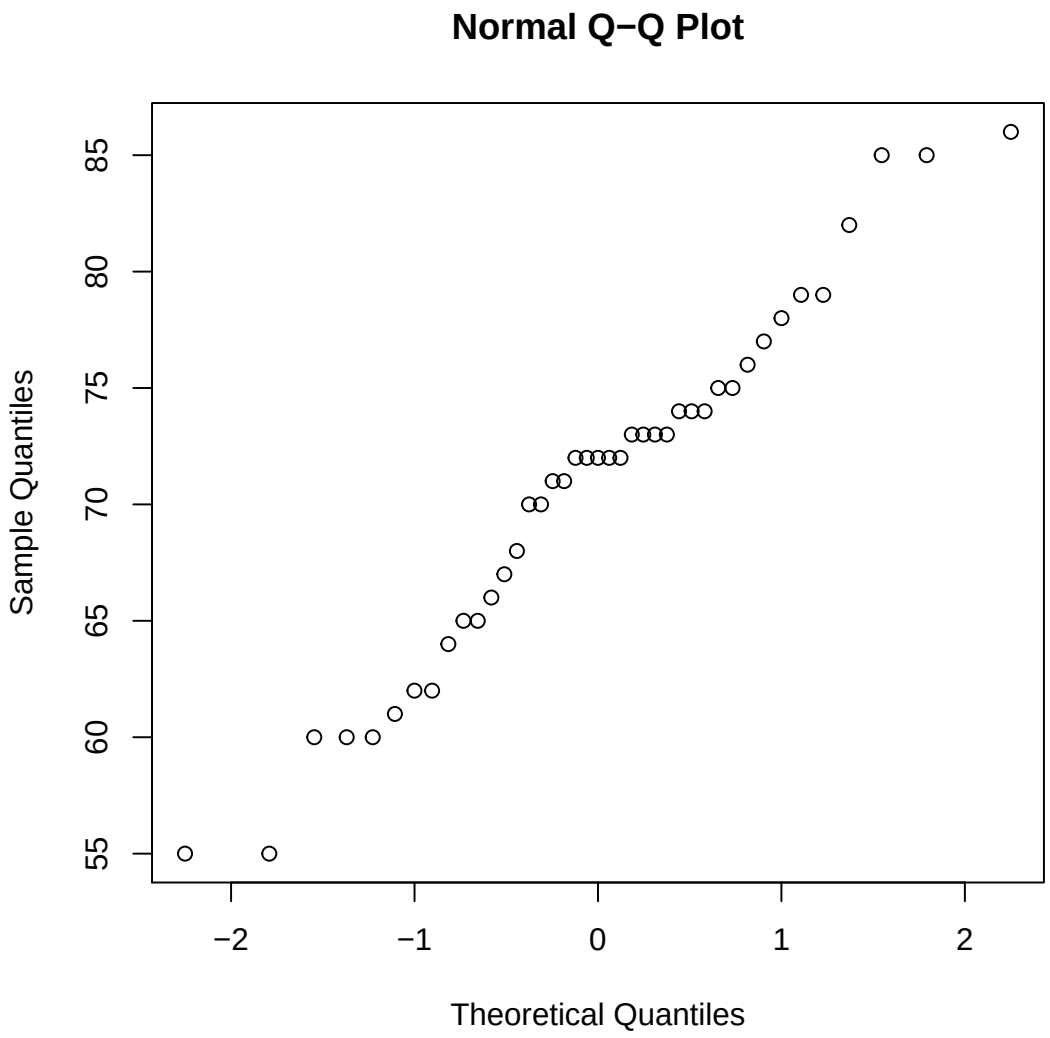



```
> barplot(summary(as.factor(na.omit(sitio))), horiz = TRUE, col="blue")
```



- Verificar distribución normal gráficamente: comparación de los cuartiles observados con los cuartiles teóricos bajo distribución normal. Si la relación es lineal hay indicios de normalidad:

```
> data <- read.table("data.txt", header = T)
> y <- data$peso[data$sexo == "h"]

> qqnorm(y)
```


Normal Q−Q Plot
Sample Quantiles
Theoretical Quantiles
55
60
65
70
75
80
85
−2
−1
0
1
2