descriptive-statistics.R

ju

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```
# Load the data from the CSV file
data <- read.csv("data_whole.csv", header = TRUE, check.names = FALSE)

# Calculate descriptive statistics for the response variable y1
summary(data$y1)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    2948    4875    5985    6043    7370    9140
```

```
sd(data$y1)
```

```
## [1] 1459.593
```

```
# Calculate descriptive statistics for the response variable y2
summary(data$y2)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##    3016    4083    4577    4594    5060    7432    1808
```

```
sd(data$y2)
```

```
## [1] NA
```

```
# Calculate descriptive statistics for the explanatory variables x1 through x30
summary(data[,4:33], na.rm = TRUE)
```

```
##        x1                x2                x3                x4
##  Min.   :-37.63   Min.   : 19.33   Min.   : 370.0   Min.   :-709.83
##  1st Qu.: 49.66   1st Qu.: 53.94   1st Qu.: 535.0   1st Qu.:-159.74
##  Median : 63.83   Median : 69.31   Median : 595.0   Median : -23.04
##  Mean   : 69.01   Mean   : 75.42   Mean   : 677.1   Mean   :  36.76
##  3rd Qu.: 92.31   3rd Qu.:104.12   3rd Qu.: 640.0   3rd Qu.: 164.37
##  Max.   :123.70   Max.   :127.98   Max.   :2600.0   Max.   :1839.15
##                                                     NA's   :1
##        x5                x6                x7                x8
##  Min.   :-111.76   Min.   :-2606.4   Min.   :-1882.45   Min.   :0.4420
##  1st Qu.: -25.72   1st Qu.: -206.4   1st Qu.: -696.47   1st Qu.:0.6065
##  Median :  -6.86   Median :  373.0   Median :  -58.77   Median :0.6642
```

```
##  Mean   :  -1.70   Mean   :  752.9   Mean   :  -16.44   Mean   :0.6718
##  3rd Qu.:  15.56   3rd Qu.: 1432.7   3rd Qu.:  610.31   3rd Qu.:0.7373
##  Max.   : 146.92   Max.   : 4656.2   Max.   : 2498.30   Max.   :0.8592
##  NA's   :1         NA's   :1520      NA's   :1          NA's   :1574
##        x9               x10              x11               x12
##  Min.   :0.5885   Min.   :-416.8   Min.   :-514.200   Min.   :-2320.6
##  1st Qu.:0.8182   1st Qu.: 212.5   1st Qu.:-106.375   1st Qu.:  -52.9
##  Median :0.8921   Median : 720.2   Median :  -4.125   Median :  102.6
##  Mean   :0.8645   Mean   : 855.5   Mean   :   8.918   Mean   :  142.4
##  3rd Qu.:0.9289   3rd Qu.:1174.1   3rd Qu.: 126.700   3rd Qu.:  323.1
##  Max.   :0.9979   Max.   :3516.2   Max.   : 828.500   Max.   : 2404.9
##  NA's   :1824     NA's   :1069
##       x13               x14              x15              x16
##  Min.   :-745.23   Min.   :-715.2   Min.   :-350.0   Min.   :-371.0
##  1st Qu.: -13.32   1st Qu.:-139.2   1st Qu.: 180.0   1st Qu.:  60.4
##  Median : 182.93   Median :  78.9   Median : 310.0   Median : 220.6
##  Mean   : 204.22   Mean   : 126.4   Mean   : 317.3   Mean   : 264.7
##  3rd Qu.: 395.00   3rd Qu.: 374.9   3rd Qu.: 450.0   3rd Qu.: 429.3
##  Max.   :1530.20   Max.   :1268.2   Max.   : 950.0   Max.   :1417.4
##                                     NA's   :17
##       x17             x18             x19             x20             x21
##  Min.   :59.5   Min.   :47.50   Min.   : 5.00   Min.   : 4.00   Min.   : 1.00
##  1st Qu.:79.5   1st Qu.:78.50   1st Qu.:35.50   1st Qu.:70.00   1st Qu.:61.00
##  Median :83.9   Median :84.80   Median :46.00   Median :79.00   Median :70.00
##  Mean   :83.4   Mean   :82.76   Mean   :43.54   Mean   :73.68   Mean   :65.57
##  3rd Qu.:89.1   3rd Qu.:89.10   3rd Qu.:53.60   3rd Qu.:86.00   3rd Qu.:76.00
##  Max.   :97.7   Max.   :97.10   Max.   :84.00   Max.   :95.00   Max.   :93.00
##  NA's   :2302   NA's   :2419    NA's   :2420    NA's   :2408    NA's   :2305
##       x22             x23             x24             x25
##  Min.   : 1.00   Min.   : 41.20   Min.   : 2.00   Min.   : 7.30
##  1st Qu.:57.00   1st Qu.: 68.60   1st Qu.:12.15   1st Qu.:18.05
##  Median :70.00   Median : 77.70   Median :16.60   Median :24.00
##  Mean   :66.12   Mean   : 77.32   Mean   :16.74   Mean   :23.46
##  3rd Qu.:81.00   3rd Qu.: 85.20   3rd Qu.:20.90   3rd Qu.:28.00
##  Max.   :92.00   Max.   :100.40   Max.   :31.10   Max.   :38.60
##  NA's   :2748    NA's   :2302     NA's   :2302    NA's   :2302
##       x26             x27             x28             x29
##  Min.   : 0.80   Min.   : 10.70   Min.   : 2.500   Min.   : 0.50
##  1st Qu.: 8.20   1st Qu.: 41.40   1st Qu.: 7.000   1st Qu.:12.65
##  Median :13.10   Median : 54.90   Median : 8.900   Median :15.75
##  Mean   :13.21   Mean   : 58.74   Mean   : 9.046   Mean   :16.24
##  3rd Qu.:16.25   3rd Qu.: 71.00   3rd Qu.:11.000   3rd Qu.:19.43
##  Max.   :33.40   Max.   :114.00   Max.   :19.000   Max.   :42.60
##  NA's   :2302    NA's   :2500     NA's   :2310     NA's   :2557
##       x30
##  Min.   : 6.77
##  1st Qu.:10.39
##  Median :11.95
##  Mean   :11.99
##  3rd Qu.:13.50
##  Max.   :17.38
##  NA's   :2501
```

```r
sapply(data[,4:33], sd, na.rm = TRUE)
```

```
##           x1           x2           x3           x4           x5           x6
## 2.322745e+01 2.591986e+01 2.874118e+02 3.182086e+02 3.657704e+01 1.655003e+03
##           x7           x8           x9          x10          x11          x12
## 8.930368e+02 8.829789e-02 9.082068e-02 8.400106e+02 1.769813e+02 5.658227e+02
##          x13          x14          x15          x16          x17          x18
## 3.243738e+02 3.286562e+02 1.938494e+02 2.799212e+02 7.457230e+00 9.615670e+00
##          x19          x20          x21          x22          x23          x24
## 1.350399e+01 1.905154e+01 1.688738e+01 2.006412e+01 1.126188e+01 6.113087e+00
##          x25          x26          x27          x28          x29          x30
## 6.686633e+00 6.743896e+00 2.276944e+01 2.888159e+00 5.421944e+00 2.378321e+00
```

```r
# Create a correlation matrix for the explanatory variables
cor(data[,4:33], use = "pairwise.complete.obs")
```

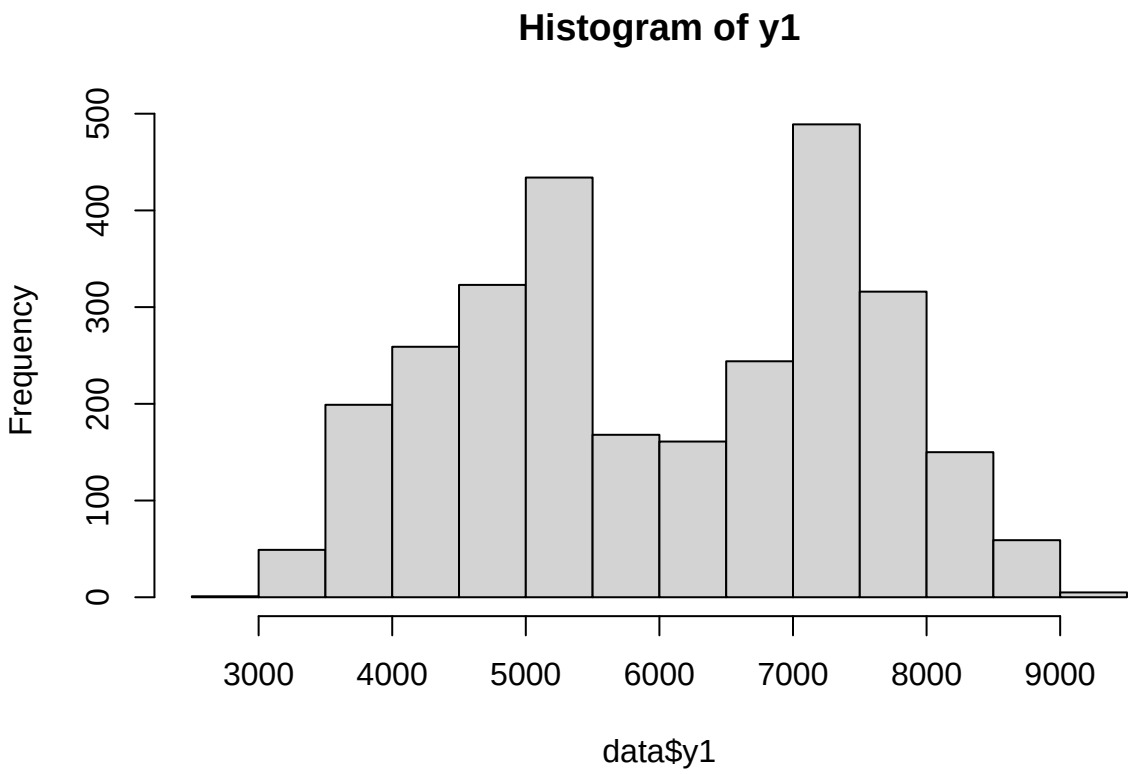
```
##               x1           x2          x3           x4           x5
## x1   1.000000000  0.9840313657  0.38868845 -0.022543676  0.113046204
## x2   0.984031366  1.0000000000  0.33798119  0.003291436  0.098243213
## x3   0.388688454  0.3379811912  1.00000000 -0.104472773  0.197366355
## x4  -0.022543676  0.0032914363 -0.10447277  1.000000000  0.684500090
## x5   0.113046204  0.0982432130  0.19736635  0.684500090  1.000000000
## x6  -0.228476821 -0.1963261756 -0.62324278  0.363556000  0.346450724
## x7   0.256634742  0.3326051120 -0.12270907  0.193649760  0.012809697
## x8  -0.251569888 -0.2157551346 -0.48494050  0.300729973  0.209589640
## x9  -0.507911358 -0.5111274981 -0.57703635  0.343271508  0.011627724
## x10  0.183010971  0.1495936752  0.13214956 -0.052897849 -0.098134782
## x11 -0.127314540 -0.1064021253  0.03949612  0.062760999  0.163897906
## x12 -0.099533950 -0.1091330598  0.27769453 -0.066238704  0.323532662
## x13  0.034213974  0.0411056993 -0.11192402  0.145676616  0.164795359
## x14 -0.127924028 -0.1217378214 -0.15706409  0.010623409  0.094569879
## x15 -0.068535504 -0.0724929052 -0.13353213 -0.254198496 -0.247166507
## x16 -0.298229285 -0.2649898744 -0.11455212  0.112762937  0.137161261
## x17 -0.155579159 -0.1545499425  0.10172481  0.320638756  0.430640614
## x18 -0.137824025 -0.1239751813 -0.35802113  0.339733985  0.236196053
## x19  0.179002220  0.1840929059  0.29201600  0.258213928  0.488107399
## x20  0.005482816 -0.0008931111 -0.11500056  0.079270041  0.080337003
## x21 -0.067770870 -0.0775939367 -0.15472920  0.107348137  0.105026013
## x22 -0.074343284 -0.0947042217 -0.03805028  0.157350089  0.007206027
## x23 -0.401880303 -0.4232909501  0.13880123  0.136642565  0.239062409
## x24  0.344590863  0.3220910927  0.54219034 -0.269136000  0.048636561
## x25  0.447142320  0.4644090498  0.18031159 -0.189320986 -0.019403041
## x26  0.354455241  0.3222228477  0.47426439 -0.270646696  0.030498932
## x27  0.475265113  0.4581639232  0.50802967 -0.325294859  0.042562863
## x28  0.281199147  0.2901351137 -0.09524127 -0.071153903 -0.121763134
## x29 -0.139570201 -0.1305519196 -0.15406735  0.009713908 -0.023048460
## x30  0.111241211  0.1321585432  0.24459080  0.104585455  0.134127777
##              x6           x7          x8           x9          x10
## x1  -0.22847682  0.2566347421 -0.25156989 -0.507911358  0.183010971
## x2  -0.19632618  0.3326051120 -0.21575513 -0.511127498  0.149593675
## x3  -0.62324278 -0.1227090685 -0.48494050 -0.577036353  0.132149560
## x4   0.36355600  0.1936497596  0.30072997  0.343271508 -0.052897849
```

```
## x5   0.34645072  0.0128096972  0.20958964  0.011627724 -0.098134782
## x6   1.00000000  0.6328249334  0.66447547  0.697194849  0.076703341
## x7   0.63282493  1.0000000000  0.40488655  0.353368906  0.245756434
## x8   0.66447547  0.4048865480  1.00000000  0.512925485 -0.134391125
## x9   0.69719485  0.3533689065  0.51292548  1.000000000 -0.313053615
## x10  0.07670334  0.2457564344 -0.13439113 -0.313053615  1.000000000
## x11  0.14326724 -0.0467617414  0.18913028  0.269260699 -0.023674369
## x12 -0.01136018 -0.1069463102 -0.34198472 -0.114239854 -0.254546447
## x13  0.47766001  0.1977198262  0.37843962  0.425416280  0.098544579
## x14  0.41388371  0.0303637037  0.33174095  0.223867633  0.049259861
## x15 -0.05771028 -0.0486633910  0.15341176  0.329621628 -0.145967308
## x16  0.37462056  0.0007167120  0.31645237  0.348309635 -0.141318066
## x17  0.43247362  0.0552095483  0.13140405  0.402815665  0.027716253
## x18  0.64779333  0.2926030231  0.37276864  0.583792880  0.239029035
## x19  0.06706766 -0.0757916431 -0.03360107  0.240598734 -0.064026841
## x20  0.10944532 -0.1075093948 -0.05874775  0.129436052  0.138959498
## x21  0.17176002 -0.1180836189  0.02267182  0.153813791  0.087268419
## x22  0.17500942 -0.0917226651  0.15401030  0.356474282  0.230225504
## x23  0.09719224 -0.1885272743 -0.12344672  0.207015724 -0.140137262
## x24 -0.66152736 -0.2330435819 -0.40883978 -0.439635253 -0.040432786
## x25 -0.40689289  0.0005301329 -0.27433193 -0.395815973  0.004802136
## x26 -0.67410085 -0.2874388207 -0.45516434 -0.460363814 -0.085891858
## x27 -0.58213080 -0.4101763591 -0.38174940 -0.500667273 -0.004102831
## x28 -0.24800219  0.0058455650 -0.26033765 -0.002354878 -0.216572849
## x29  0.02201232 -0.0717347576  0.13755146  0.238149448 -0.298315661
## x30 -0.41468815 -0.2029549265 -0.32181716 -0.108798797 -0.452224479
##              x11         x12         x13         x14         x15          x16
## x1  -0.127314540 -0.09953395  0.03421397 -0.12792403 -0.06853550 -0.298229285
## x2  -0.106402125 -0.10913306  0.04110570 -0.12173782 -0.07249291 -0.264989874
## x3   0.039496121  0.27769453 -0.11192402 -0.15706409 -0.13353213 -0.114552116
## x4   0.062760999 -0.06623870  0.14567662  0.01062341 -0.25419850  0.112762937
## x5   0.163897906  0.32353266  0.16479536  0.09456988 -0.24716651  0.137161261
## x6   0.143267237 -0.01136018  0.47766001  0.41388371 -0.05771028  0.374620563
## x7  -0.046761741 -0.10694631  0.19771983  0.03036370 -0.04866339  0.000716712
## x8   0.189130284 -0.34198472  0.37843962  0.33174095  0.15341176  0.316452367
## x9   0.269260699 -0.11423985  0.42541628  0.22386763  0.32962163  0.348309635
## x10 -0.023674369 -0.25454645  0.09854458  0.04925986 -0.14596731 -0.141318066
## x11  1.000000000  0.24944161  0.53623079  0.61312541 -0.05884947  0.719828951
## x12  0.249441607  1.00000000  0.11127752  0.21501126 -0.11912046  0.269325642
## x13  0.536230787  0.11127752  1.00000000  0.68121145 -0.03626578  0.432093176
## x14  0.613125406  0.21501126  0.68121145  1.00000000  0.05431160  0.525182912
## x15 -0.058849475 -0.11912046 -0.03626578  0.05431160  1.00000000  0.060536945
## x16  0.719828951  0.26932564  0.43209318  0.52518291  0.06053694  1.000000000
## x17  0.174228984  0.37993378  0.22556671  0.09485610 -0.12567808  0.294411844
## x18  0.061330552 -0.05581191  0.35306175  0.16297976  0.07909341  0.201319129
## x19  0.197769913  0.31344025  0.22862522  0.08252993 -0.09336127  0.196407862
## x20  0.007164561 -0.06093508  0.18954215  0.10107731  0.07649068  0.042529910
## x21 -0.009915719 -0.07251742  0.23924177  0.12698455  0.08481601  0.013015486
## x22 -0.149927572 -0.19616415  0.27153166  0.14920288  0.19192994 -0.145650629
## x23  0.179759766  0.34784944  0.04161536  0.08225390 -0.13301679  0.307233896
## x24 -0.075905712  0.19028572 -0.30014576 -0.33880875  0.09453695 -0.225269067
## x25 -0.096057989  0.08151889 -0.28153563 -0.22980817 -0.12860857 -0.192920248
## x26  0.001642015  0.19632465 -0.35688690 -0.26835586  0.07519219 -0.181669609
## x27 -0.024111434  0.26269459 -0.32022635 -0.30854160 -0.07605944 -0.261258749
```

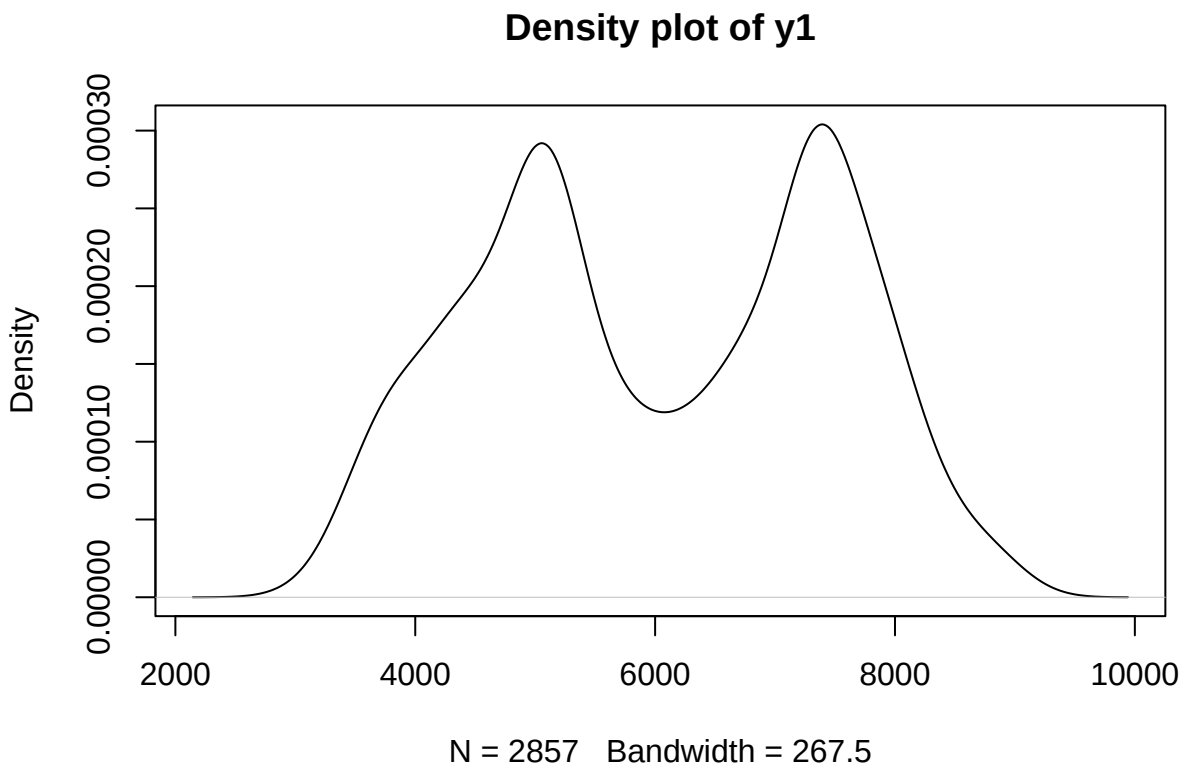
```
## x28 -0.091599007 -0.03199458 -0.16025528 -0.15987586  0.02949077 -0.110499884
## x29  0.159584063  0.08962655  0.02891043  0.04220110  0.06850583  0.167598850
## x30  0.087809768  0.29130063 -0.14690997 -0.32386942 -0.04340339  0.214062284
##              x17         x18         x19           x20          x21
## x1  -0.155579159 -0.13782402  0.17900222  0.0054828157 -0.067770870
## x2  -0.154549942 -0.12397518  0.18409291 -0.0008931111 -0.077593937
## x3   0.101724809 -0.35802113  0.29201600 -0.1150005583 -0.154729196
## x4   0.320638756  0.33973398  0.25821393  0.0792700413  0.107348137
## x5   0.430640614  0.23619605  0.48810740  0.0803370032  0.105026013
## x6   0.432473620  0.64779333  0.06706766  0.1094453158  0.171760017
## x7   0.055209548  0.29260302 -0.07579164 -0.1075093948 -0.118083619
## x8   0.131404047  0.37276864 -0.03360107 -0.0587477501  0.022671823
## x9   0.402815665  0.58379288  0.24059873  0.1294360516  0.153813791
## x10  0.027716253  0.23902904 -0.06402684  0.1389594978  0.087268419
## x11  0.174228984  0.06133055  0.19776991  0.0071645611 -0.009915719
## x12  0.379933776 -0.05581191  0.31344025 -0.0609350822 -0.072517420
## x13  0.225566709  0.35306175  0.22862522  0.1895421470  0.239241770
## x14  0.094856098  0.16297976  0.08252993  0.1010773126  0.126984550
## x15 -0.125678076  0.07909341 -0.09336127  0.0764906777  0.084816006
## x16  0.294411844  0.20131913  0.19640786  0.0425299097  0.013015486
## x17  1.000000000  0.71021561  0.82027545  0.5381391393  0.496516464
## x18  0.710215608  1.00000000  0.46141235  0.6722887891  0.640459387
## x19  0.820275451  0.46141235  1.00000000  0.6030698843  0.566315481
## x20  0.538139139  0.67228879  0.60306988  1.0000000000  0.947242805
## x21  0.496516464  0.64045939  0.56631548  0.9472428048  1.000000000
## x22  0.613112729  0.59648057  0.82758467  0.8691731936  0.932923823
## x23  0.766014100  0.33424458  0.70695036  0.3495115501  0.332732288
## x24 -0.114010960 -0.42771547  0.13203127 -0.0959389582 -0.111870703
## x25 -0.210994231 -0.36205984 -0.08798999 -0.1457523034 -0.151624977
## x26 -0.200750356 -0.49022636  0.04813834 -0.1202805521 -0.116094903
## x27 -0.277000824 -0.45644940 -0.05425301 -0.1729649360 -0.191550133
## x28 -0.183974011 -0.22239988 -0.15975398 -0.0267145249 -0.011300755
## x29  0.006588416 -0.07348851 -0.04106118 -0.1268486982 -0.050592261
## x30  0.270246400 -0.11837999  0.28587527  0.0429001566 -0.030671846
##              x22          x23         x24           x25          x26
## x1  -0.074343284 -0.401880303  0.34459086  0.4471423197  0.354455241
## x2  -0.094704222 -0.423290950  0.32209109  0.4644090498  0.322222848
## x3  -0.038050284  0.138801233  0.54219034  0.1803115892  0.474264387
## x4   0.157350089  0.136642565 -0.26913600 -0.1893209860 -0.270646696
## x5   0.007206027  0.239062409  0.04863656 -0.0194030406  0.030498932
## x6   0.175009421  0.097192239 -0.66152736 -0.4068928876 -0.674100848
## x7  -0.091722665 -0.188527274 -0.23304358  0.0005301329 -0.287438821
## x8   0.154010303 -0.123446717 -0.40883978 -0.2743319319 -0.455164343
## x9   0.356474282  0.207015724 -0.43963525 -0.3958159732 -0.460363814
## x10  0.230225504 -0.140137262 -0.04043279  0.0048021357 -0.085891858
## x11 -0.149927572  0.179759766 -0.07590571 -0.0960579894  0.001642015
## x12 -0.196164145  0.347849440  0.19028572  0.0815188864  0.196324655
## x13  0.271531662  0.041615359 -0.30014576 -0.2815356271 -0.356886902
## x14  0.149202884  0.082253898 -0.33880875 -0.2298081747 -0.268355858
## x15  0.191929938 -0.133016790  0.09453695 -0.1286085744  0.075192192
## x16 -0.145650629  0.307233896 -0.22526907 -0.1929202480 -0.181669609
## x17  0.613112729  0.766014100 -0.11401096 -0.2109942305 -0.200750356
## x18  0.596480567  0.334244576 -0.42771547 -0.3620598371 -0.490226358
## x19  0.827584668  0.706950361  0.13203127 -0.0879899872  0.048138338
```

```
## x20  0.869173194  0.349511550 -0.09593896 -0.1457523034 -0.120280552
## x21  0.932923823  0.332732288 -0.11187070 -0.1516249772 -0.116094903
## x22  1.000000000  0.326179080  0.15157966 -0.0577833494  0.004950401
## x23  0.326179080  1.000000000 -0.08506739 -0.3071160783 -0.168039413
## x24  0.151579661 -0.085067387  1.00000000  0.6965254790  0.881947032
## x25 -0.057783349 -0.307116078  0.69652548  1.0000000000  0.733709833
## x26  0.004950401 -0.168039413  0.88194703  0.7337098325  1.000000000
## x27 -0.036242246 -0.327895882  0.91126388  0.9072183088  0.932507459
## x28 -0.049544062 -0.245794946  0.23659558  0.5079740273  0.369306249
## x29 -0.149100651  0.001801299  0.07036433  0.0703290192  0.069225908
## x30 -0.387811721  0.395229489  0.34483617  0.2414263590  0.334468341
##              x27          x28          x29         x30
## x1   0.475265113  0.281199147 -0.139570201  0.11124121
## x2   0.458163923  0.290135114 -0.130551920  0.13215854
## x3   0.508029674 -0.095241274 -0.154067349  0.24459080
## x4  -0.325294859 -0.071153903  0.009713908  0.10458545
## x5   0.042562863 -0.121763134 -0.023048460  0.13412778
## x6  -0.582130801 -0.248002192  0.022012322 -0.41468815
## x7  -0.410176359  0.005845565 -0.071734758 -0.20295493
## x8  -0.381749399 -0.260337646  0.137551460 -0.32181716
## x9  -0.500667273 -0.002354878  0.238149448 -0.10879880
## x10 -0.004102831 -0.216572849 -0.298315661 -0.45222448
## x11 -0.024111434 -0.091599007  0.159584063  0.08780977
## x12  0.262694592 -0.031994578  0.089626546  0.29130063
## x13 -0.320226345 -0.160255284  0.028910432 -0.14690997
## x14 -0.308541603 -0.159875856  0.042201099 -0.32386942
## x15 -0.076059444  0.029490771  0.068505826 -0.04340339
## x16 -0.261258749 -0.110499884  0.167598850  0.21406228
## x17 -0.277000824 -0.183974011  0.006588416  0.27024640
## x18 -0.456449401 -0.222399880 -0.073488507 -0.11837999
## x19 -0.054253006 -0.159753981 -0.041061181  0.28587527
## x20 -0.172964936 -0.026714525 -0.126848698  0.04290016
## x21 -0.191550133 -0.011300755 -0.050592261 -0.03067185
## x22 -0.036242246 -0.049544062 -0.149100651 -0.38781172
## x23 -0.327895882 -0.245794946  0.001801299  0.39522949
## x24  0.911263883  0.236595577  0.070364333  0.34483617
## x25  0.907218309  0.507974027  0.070329019  0.24142636
## x26  0.932507459  0.369306249  0.069225908  0.33446834
## x27  1.000000000  0.351433739  0.053786628  0.25262799
## x28  0.351433739  1.000000000  0.274860313  0.40682410
## x29  0.053786628  0.274860313  1.000000000  0.26880599
## x30  0.252627987  0.406824098  0.268805995  1.00000000
```

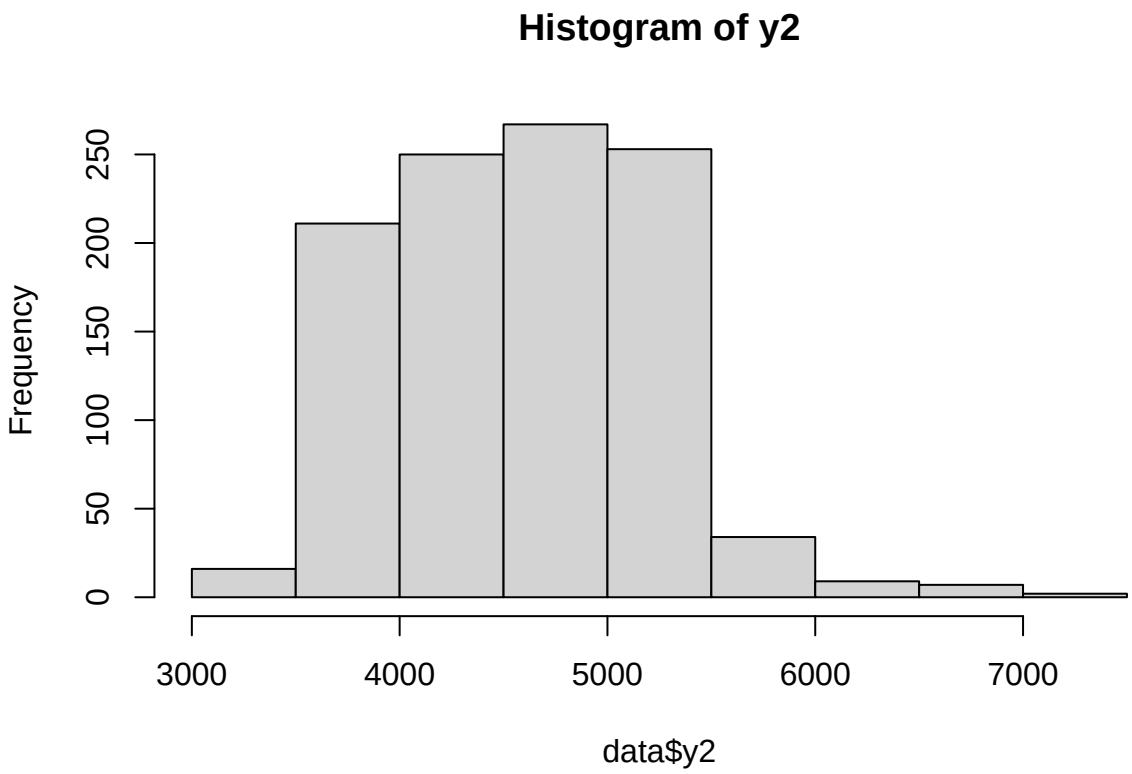
```r
# Create a histogram of the response variable y1
hist(data$y1, main = "Histogram of y1")
```



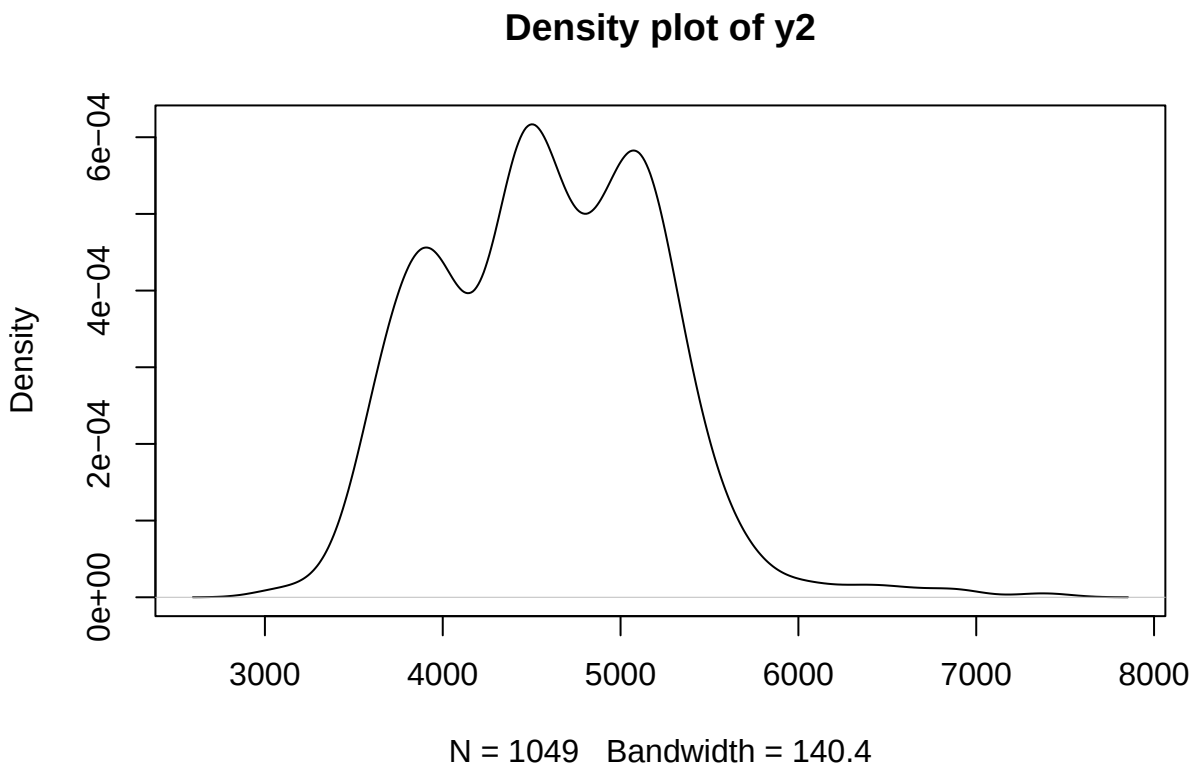

```
# Create a density plot of the response variable y1
plot(density(data$y1), main = "Density plot of y1")
```



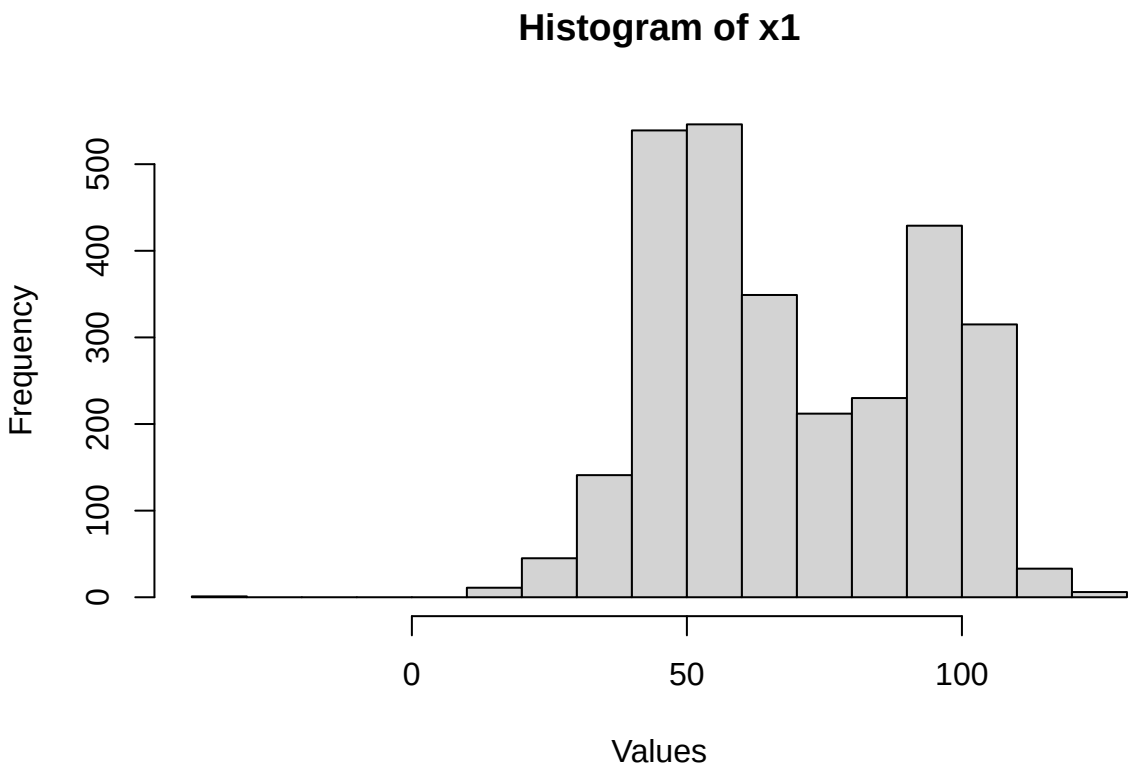

```r
# Create a histogram of the response variable y2
hist(data$y2, main = "Histogram of y2")
```

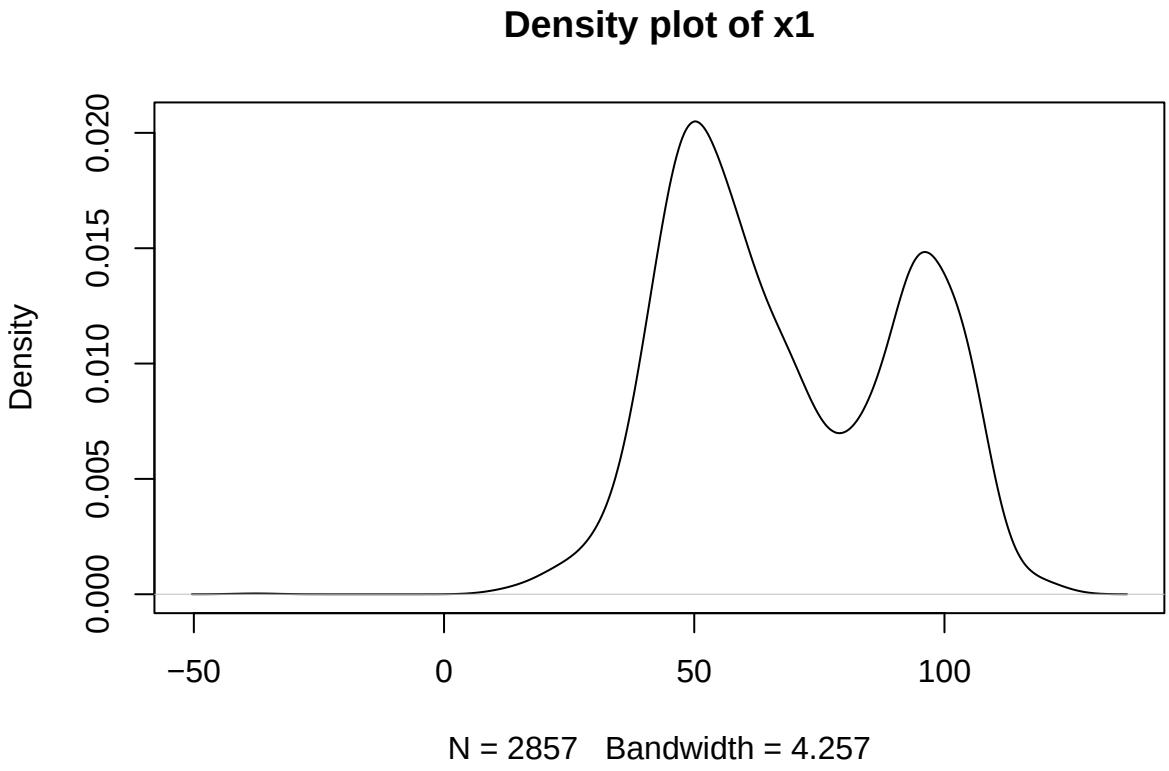


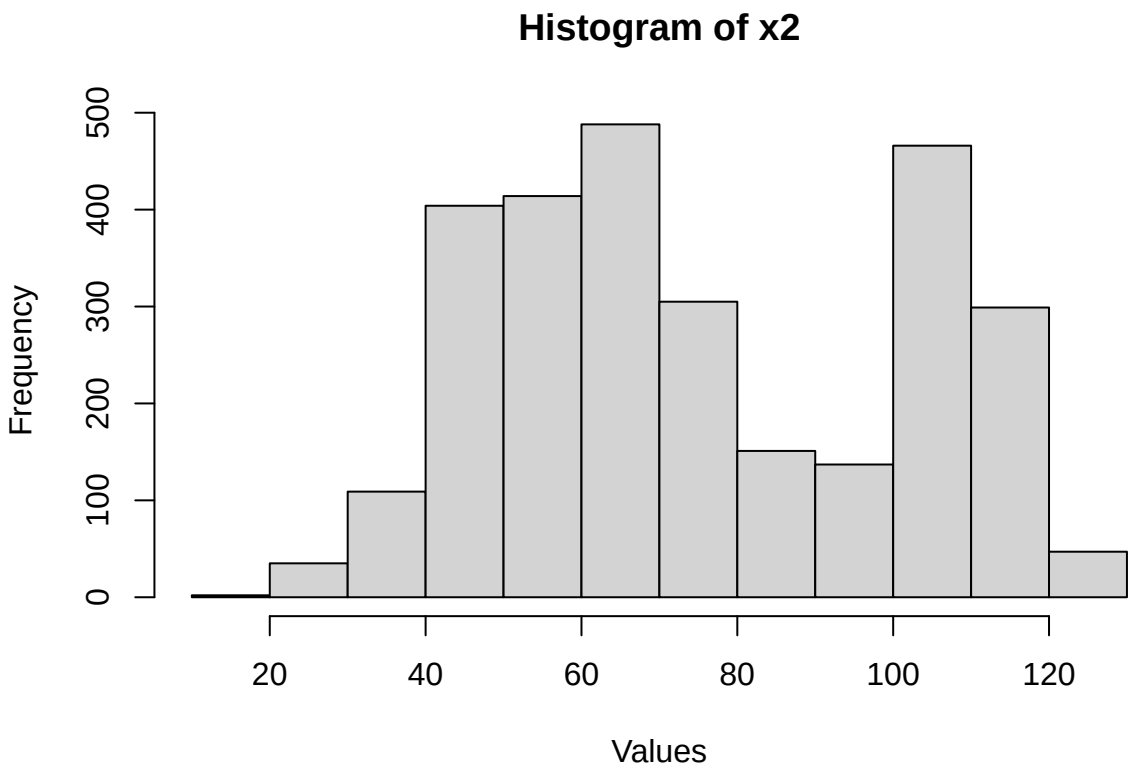

```r
# Create a density plot of the response variable y2
plot(density(na.omit(data$y2)), main = "Density plot of y2")
```

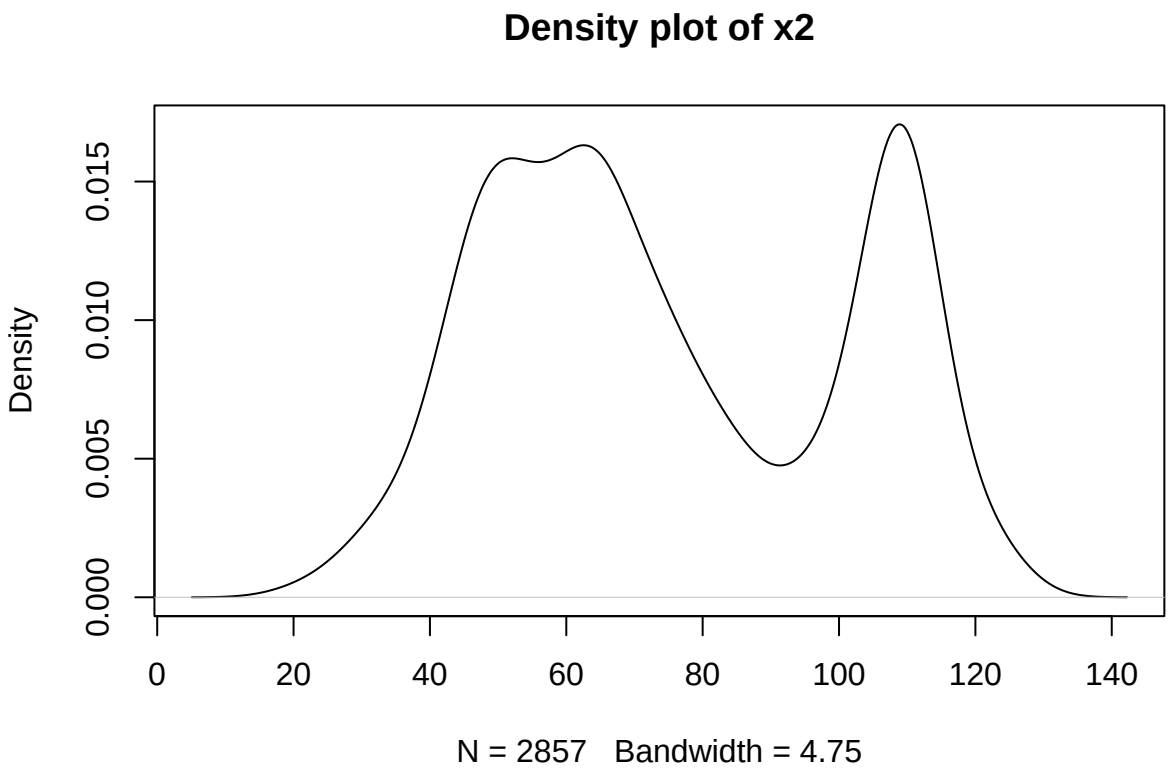


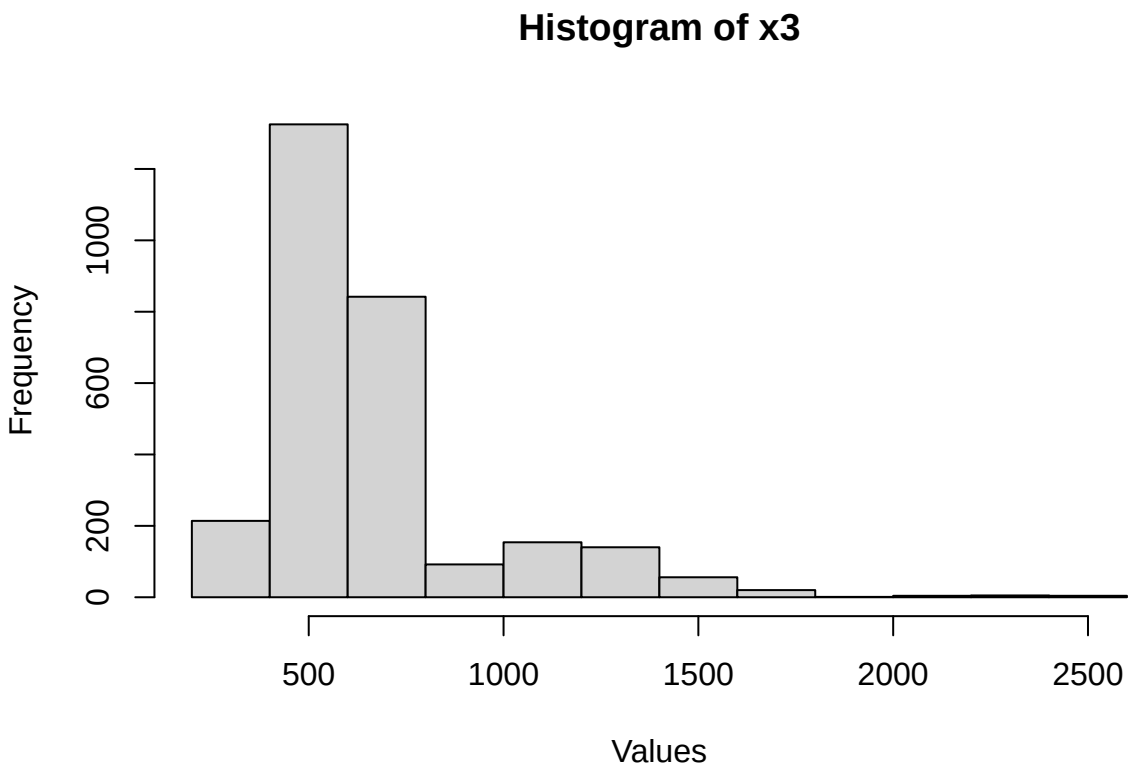

```r
# Loop over x1 to x30 and create a histogram and a density plot for each variable
for (i in 4:33) {
  # Create a histogram of the explanatory variable
  hist(data[,i], main = paste("Histogram of", names(data)[i]),
       xlab = "Values")
  # Create a density plot of the explanatory variable
  plot(density(na.omit(data[,i])), main = paste("Density plot of",
                                                names(data)[i]))
}
```

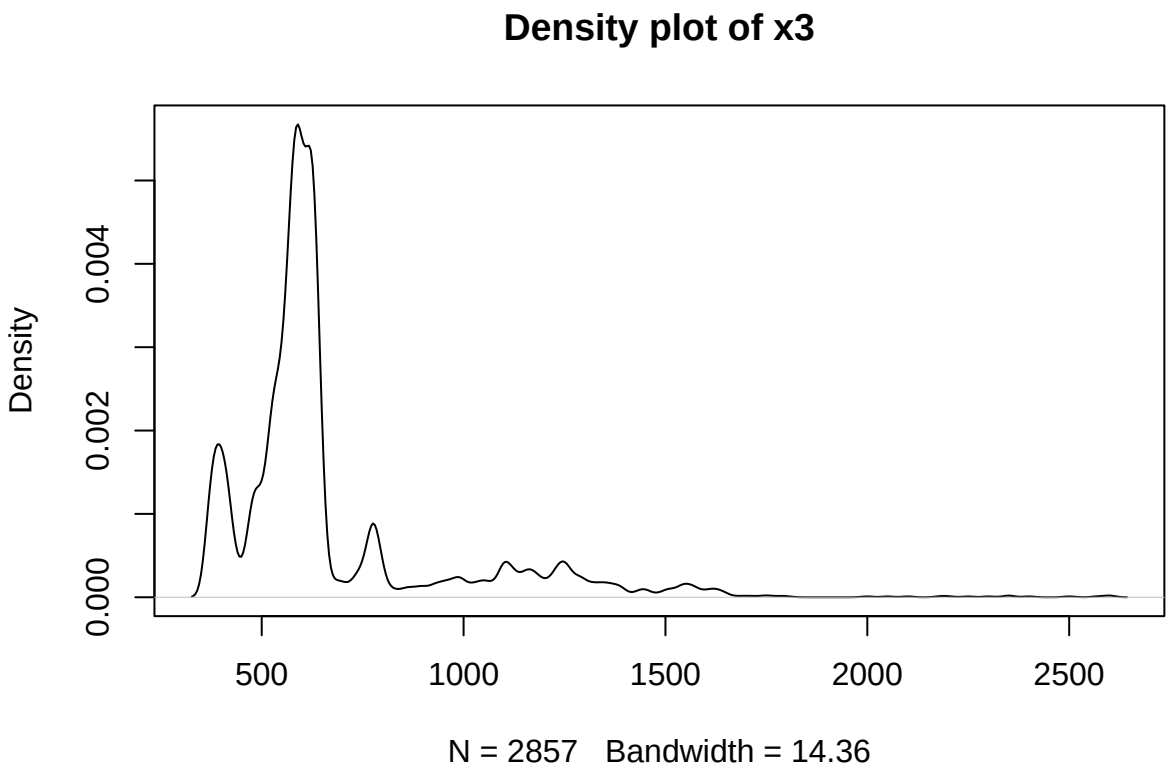

Histogram of x1
Frequency
0
100
200
300
400
500
0
50
100
Values

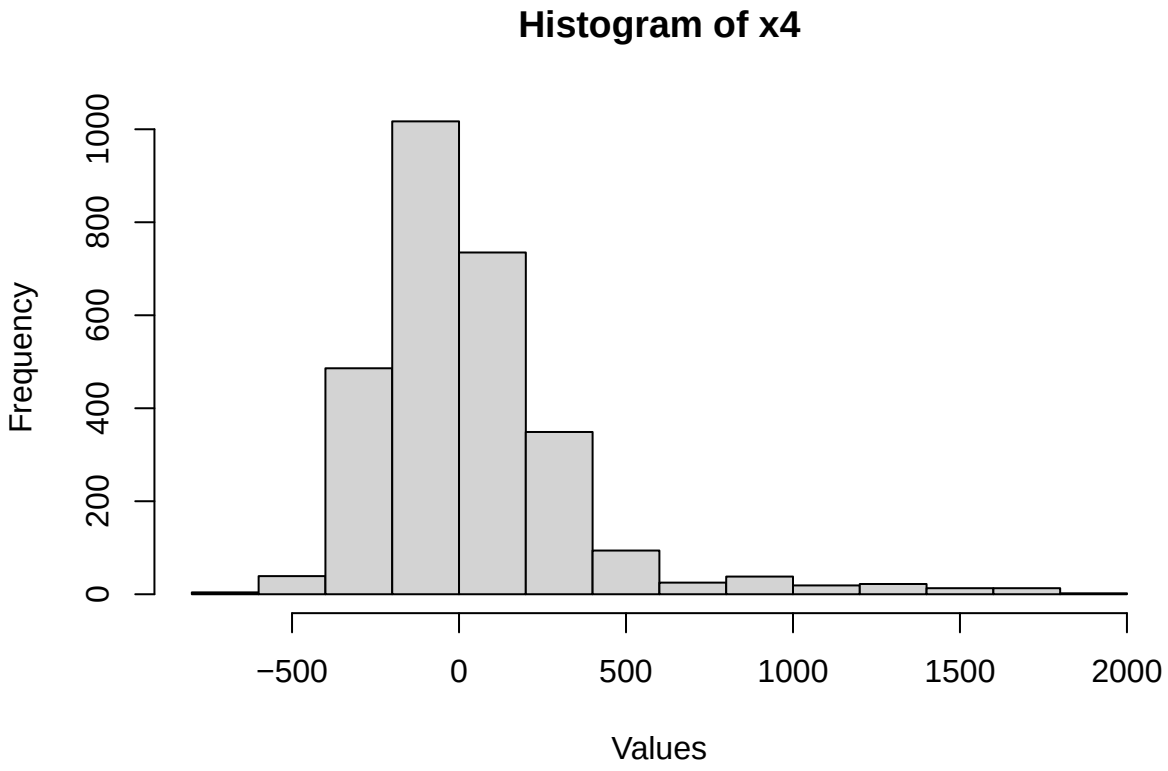

Density plot of x1
Density
0.000
0.005
0.010
0.015
0.020
−50
0
50
100
N = 2857 Bandwidth = 4.257

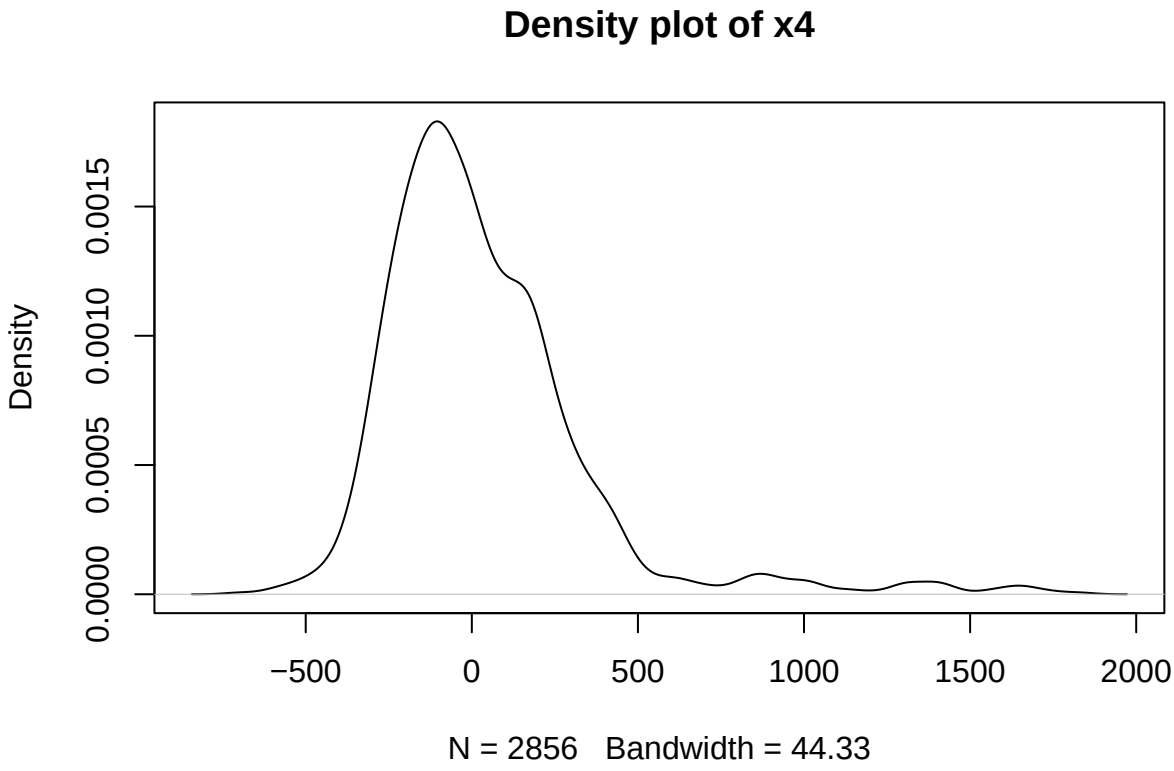

Histogram of x2
Frequency
0
100
200
300
400
500
20
40
60
80
100
120
Values

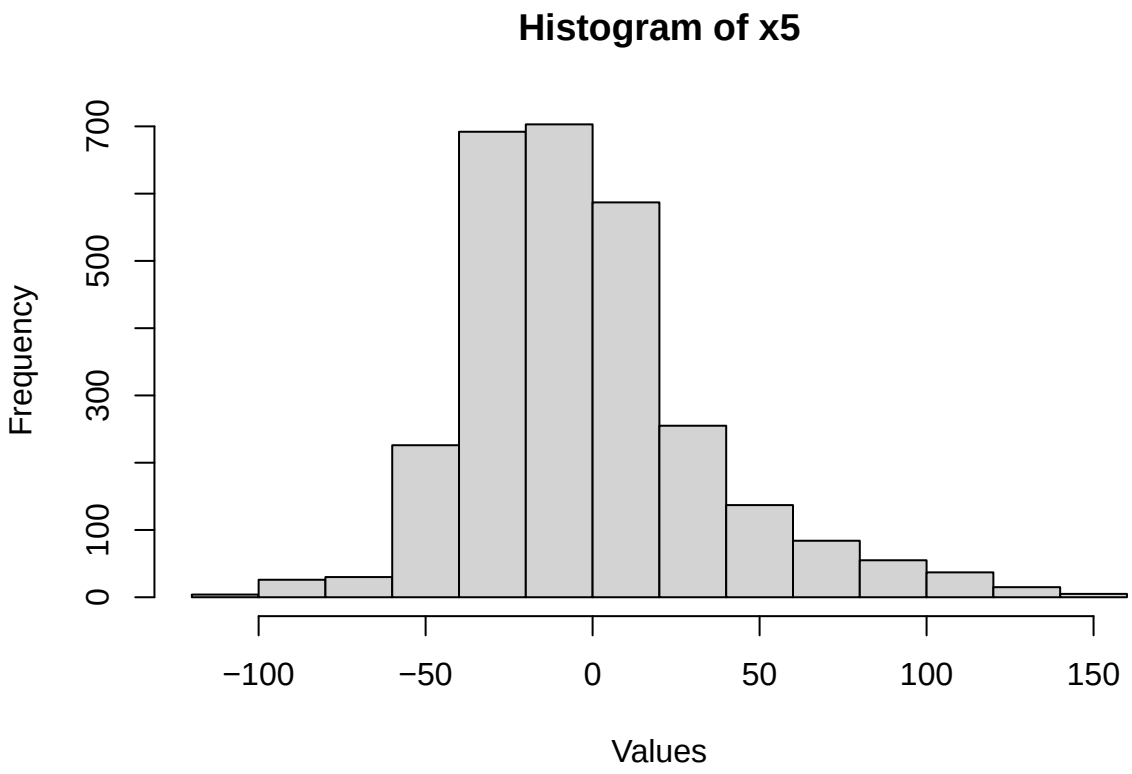

Density plot of x2
Density
0.000
0.005
0.010
0.015
0
20
40
60
80
100
120
140
N = 2857 Bandwidth = 4.75

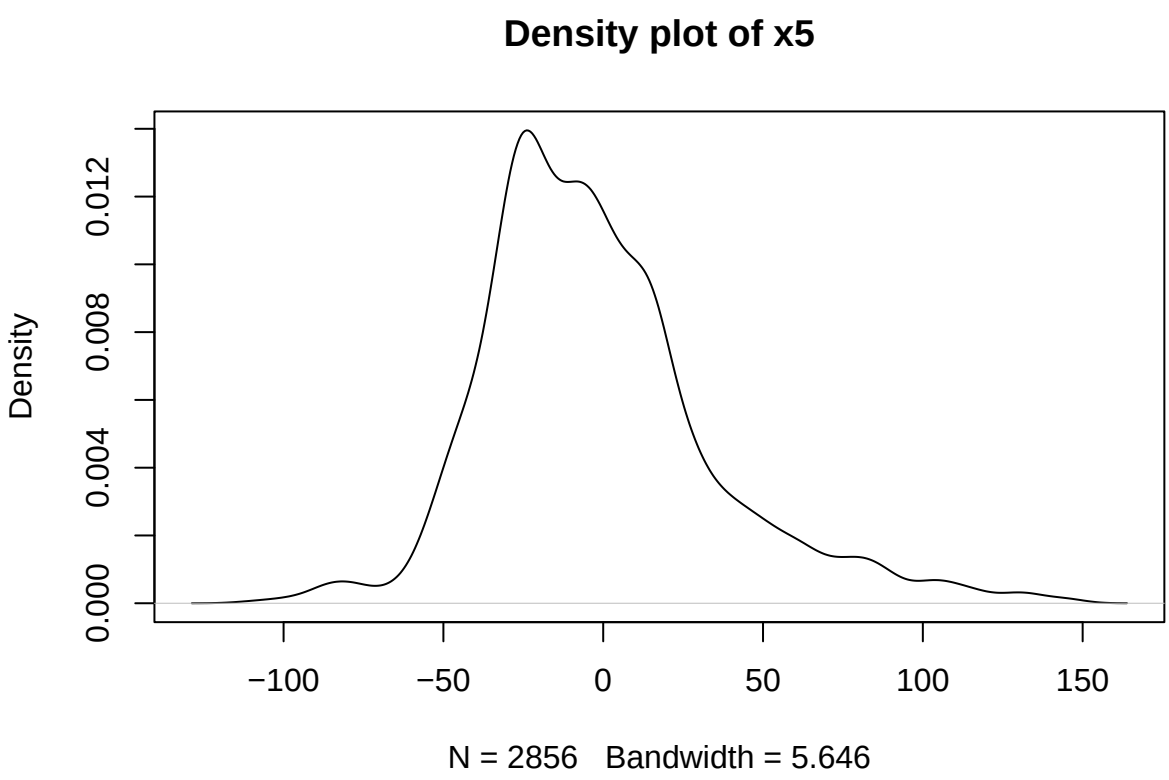

Histogram of x3
Frequency
0
200
600
1000
500
1000
1500
2000
2500
Values

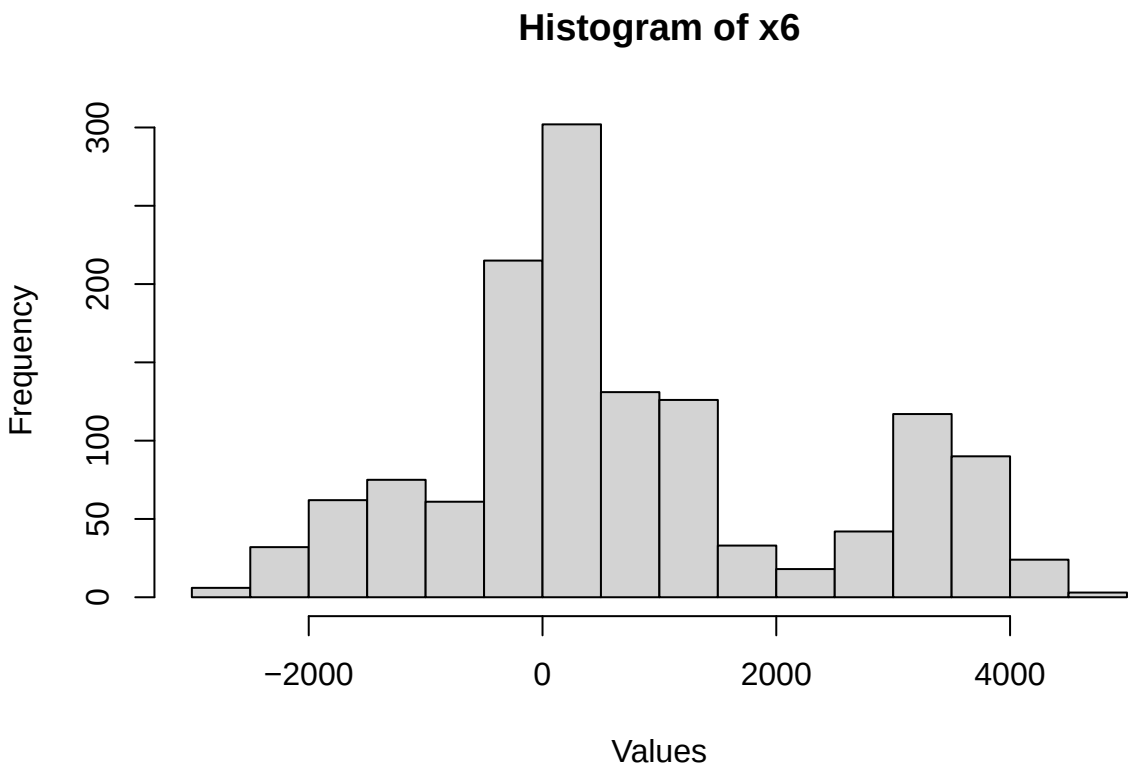

Density plot of x3
Density
0.000
0.002
0.004
500
1000
1500
2000
2500
N = 2857 Bandwidth = 14.36

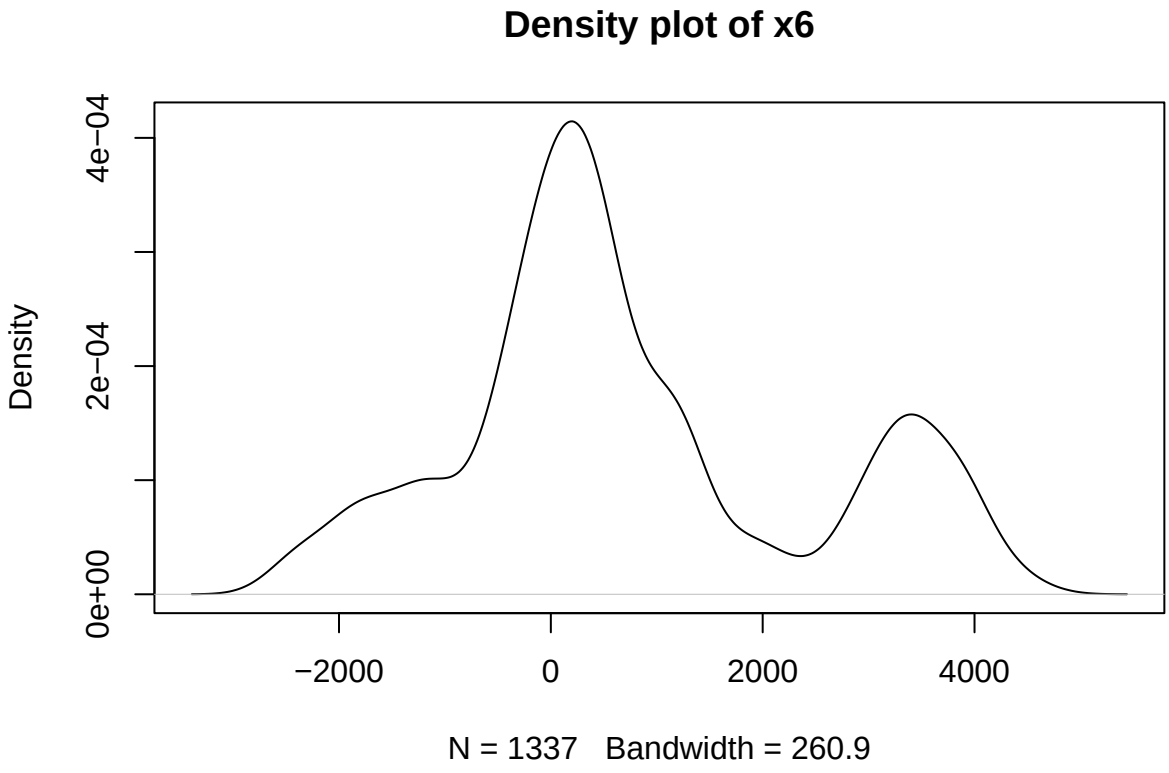

Histogram of x4
Frequency
0
200
400
600
800
1000
−500
0
500
1000
1500
2000
Values


Density plot of x4
Density
0.0000
0.0005
0.0010
0.0015
−500
0
500
1000
1500
2000
N = 2856 Bandwidth = 44.33

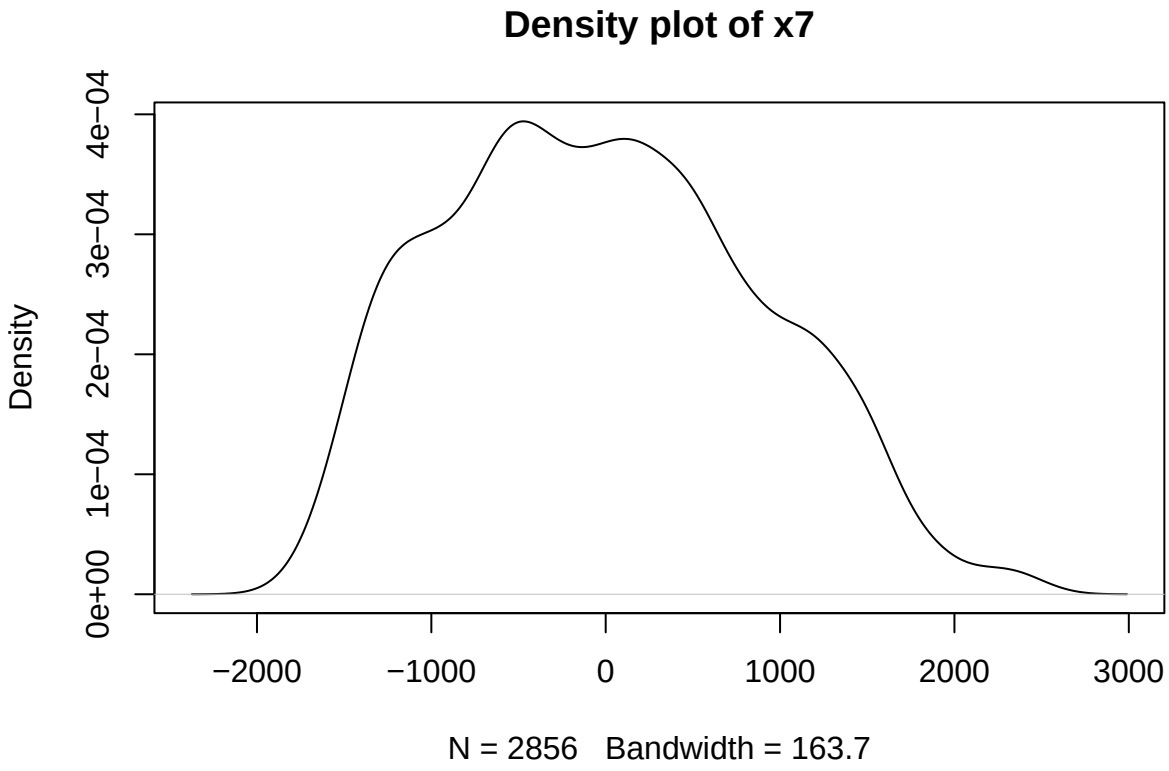

Histogram of x5
Frequency
0
100
300
500
700
−100
−50
0
50
100
150
Values

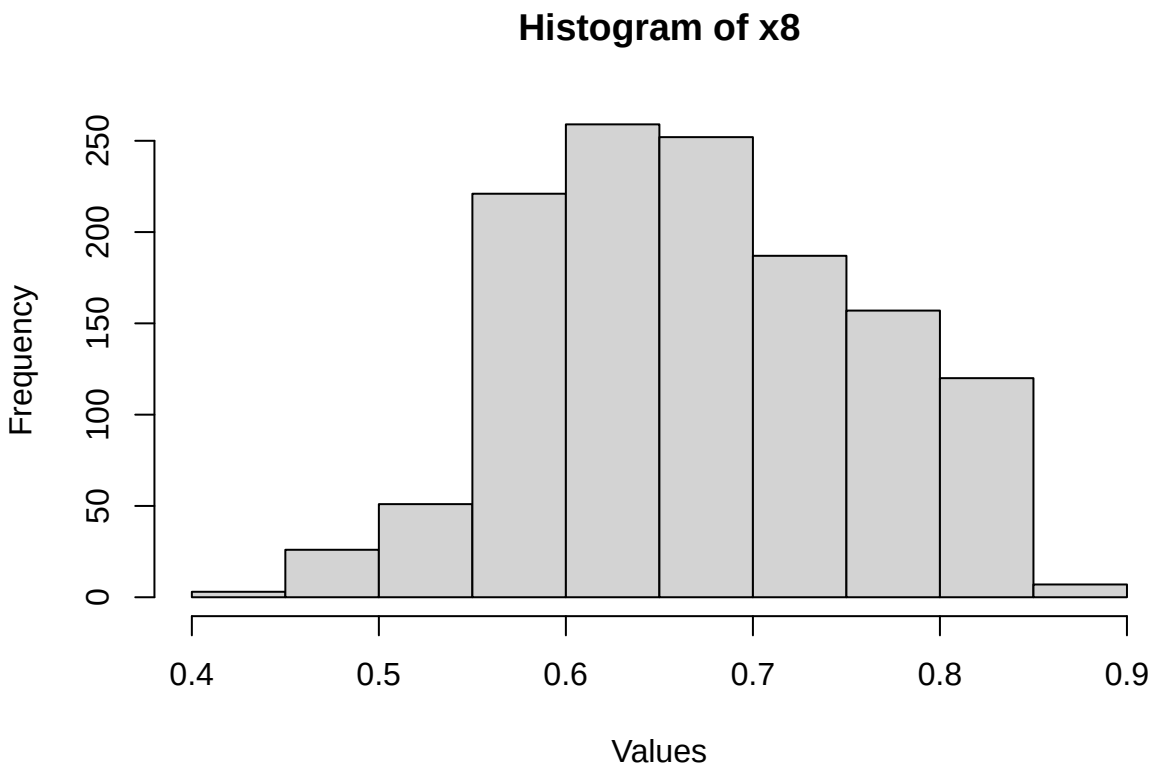

Density plot of x5
Density
0.000
0.004
0.008
0.012
−100
−50
0
50
100
150
N = 2856 Bandwidth = 5.646

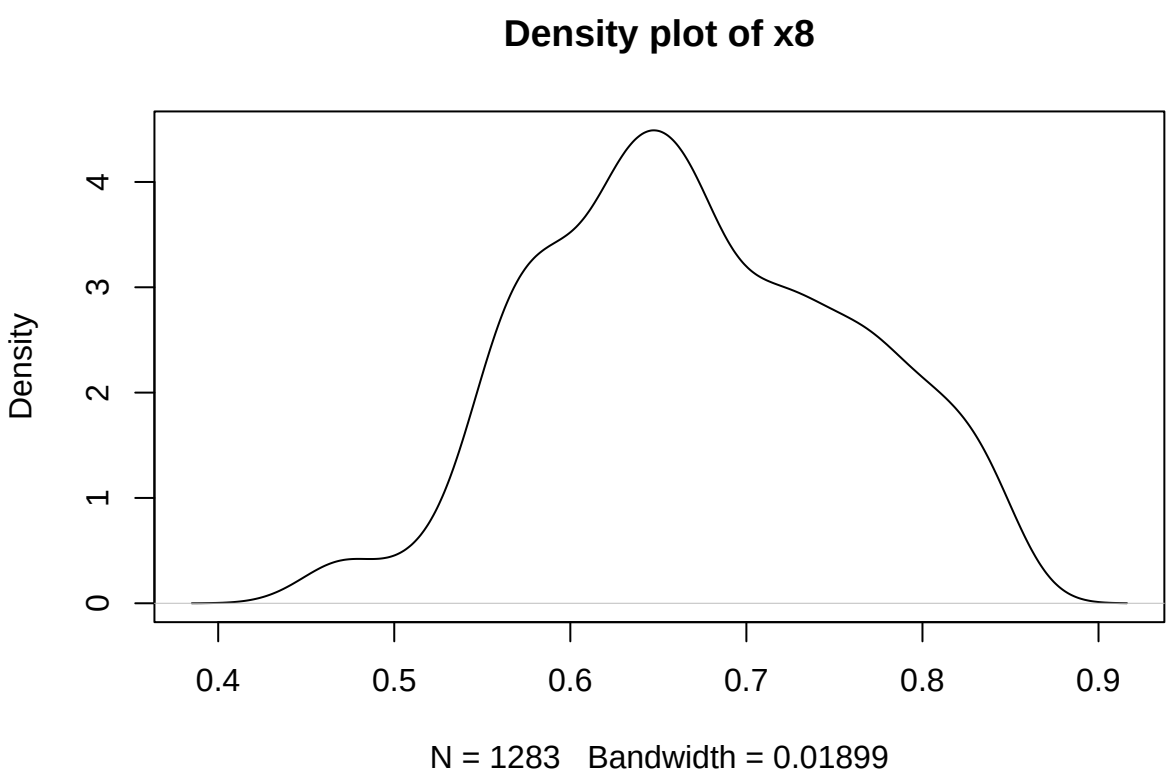

Histogram of x6
Frequency
0
50
100
200
300
−2000
0
2000
4000
Values

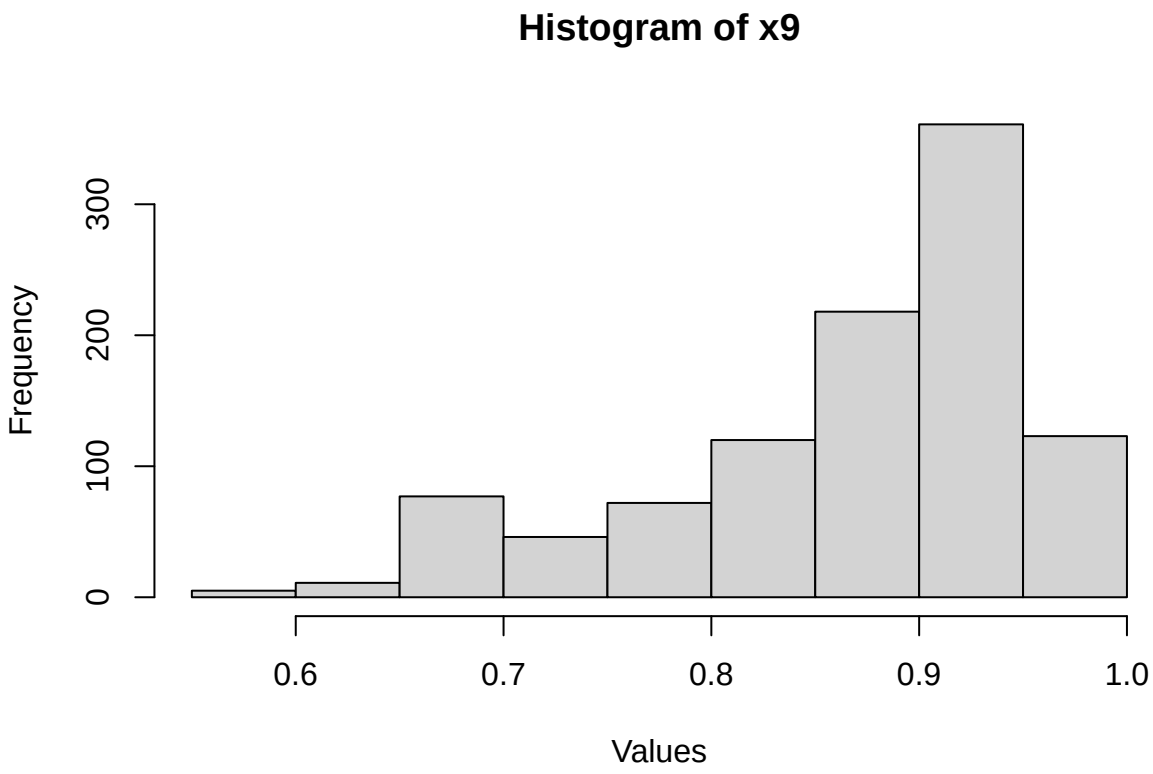

Density plot of x6
Density
0e+00
2e−04
4e−04
−2000
0
2000
4000
N = 1337 Bandwidth = 260.9

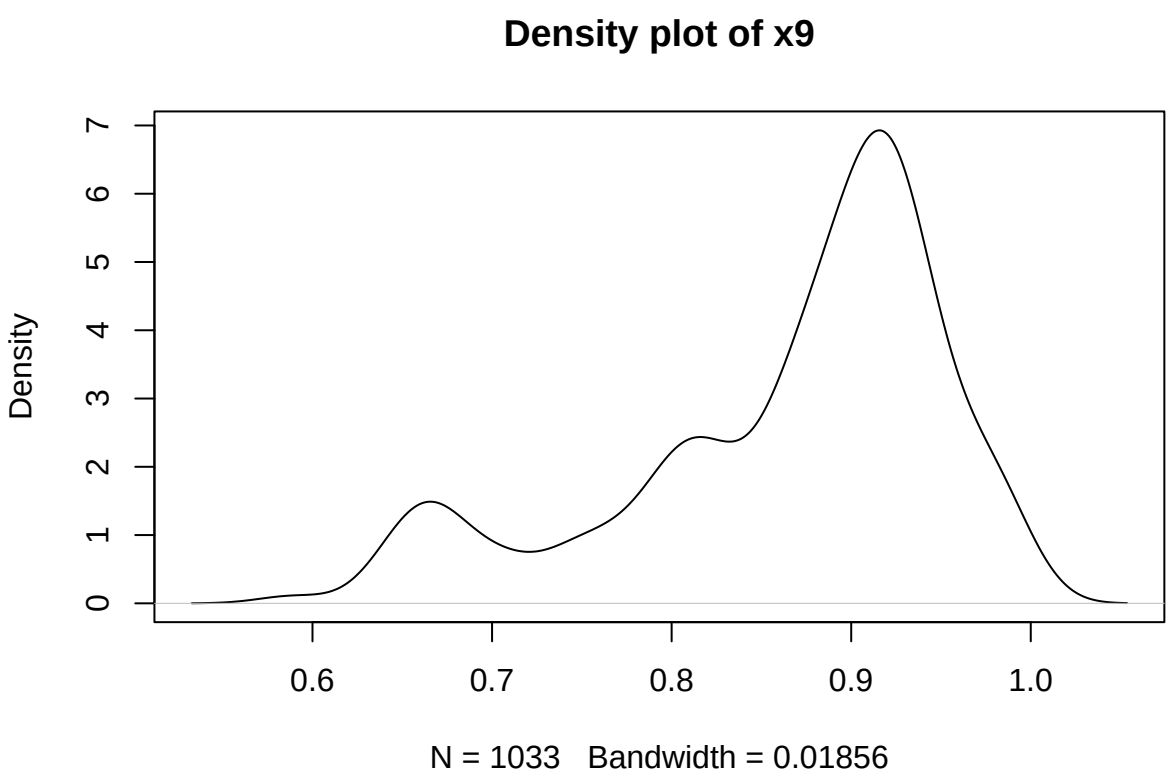

Histogram of x7
Frequency
0
100
200
300
400
500
−2000
−1000
0
1000
2000
Values

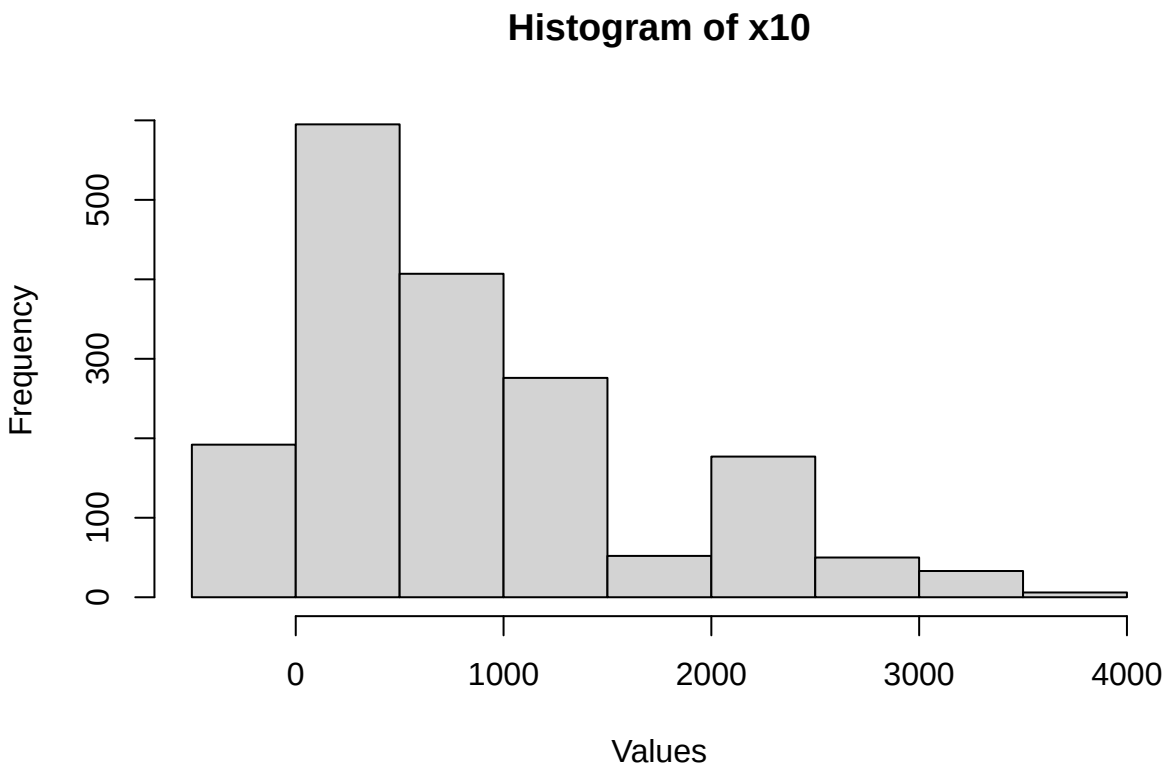

Density plot of x7
Density
0e+00
1e−04
2e−04
3e−04
4e−04
−2000
−1000
0
1000
2000
3000
N = 2856 Bandwidth = 163.7

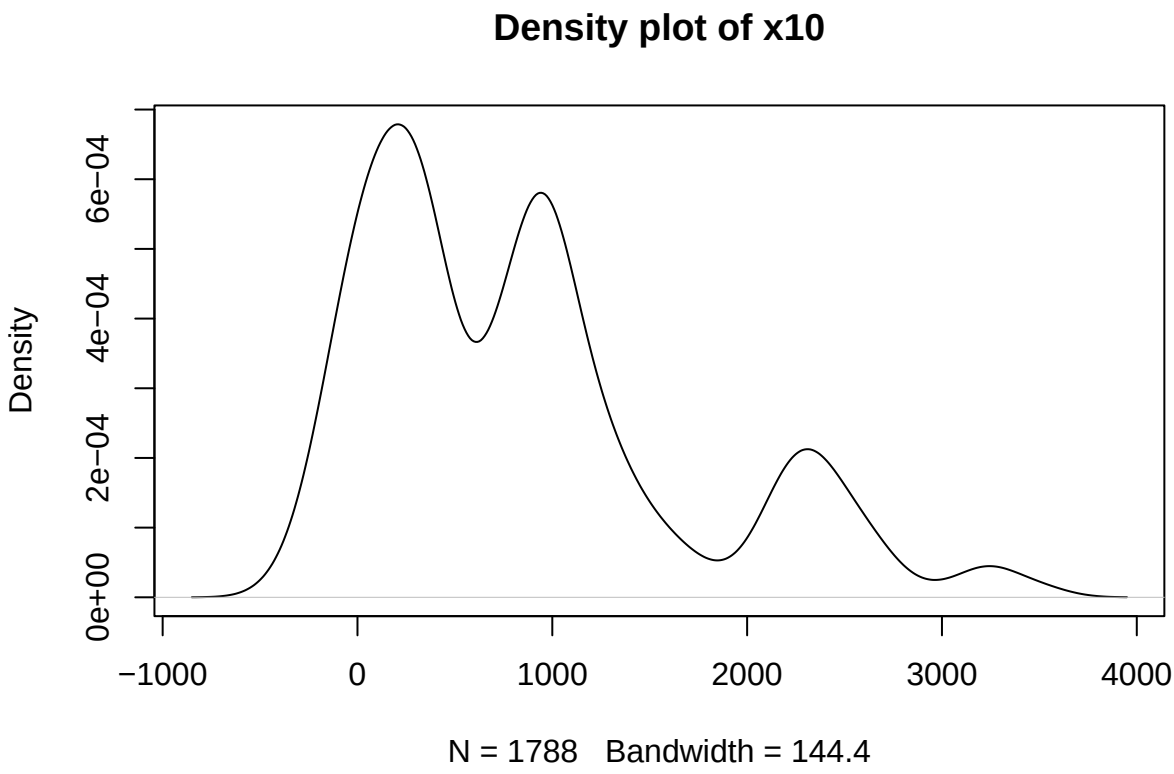

Histogram of x8
Frequency
0
50
100
150
200
250
0.4
0.5
0.6
0.7
0.8
0.9
Values

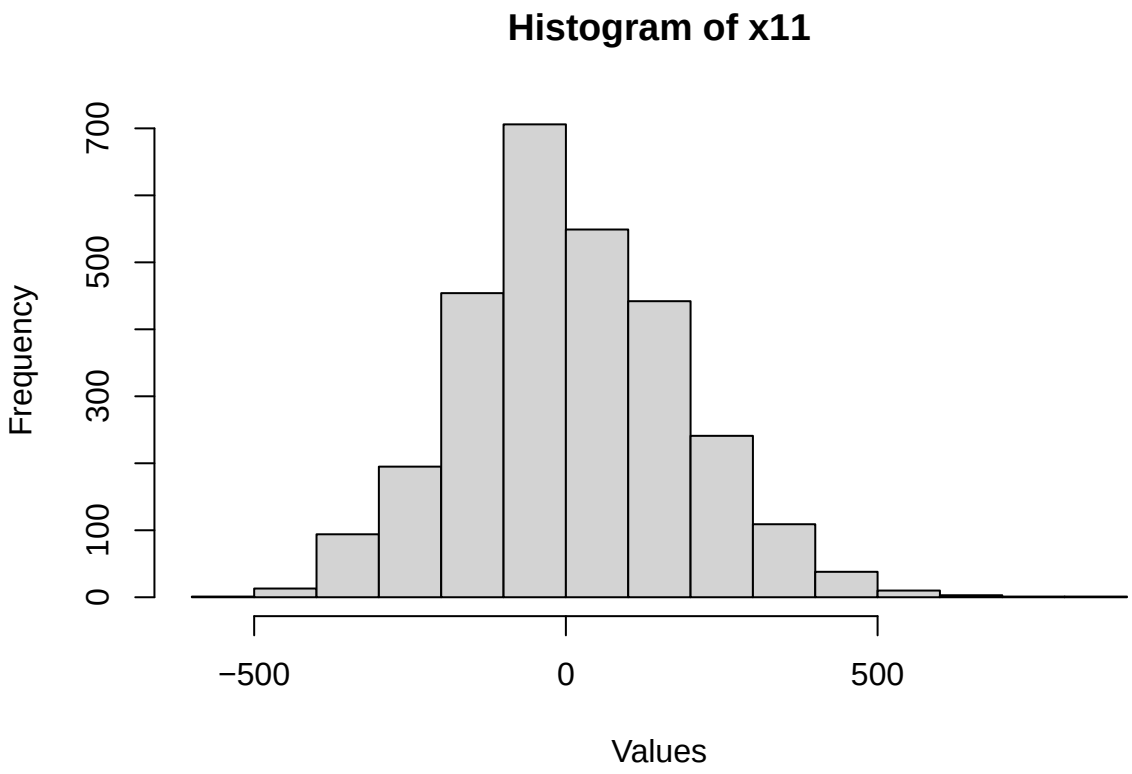

Density plot of x8
Density
0
1
2
3
4
0.4
0.5
0.6
0.7
0.8
0.9
N = 1283 Bandwidth = 0.01899

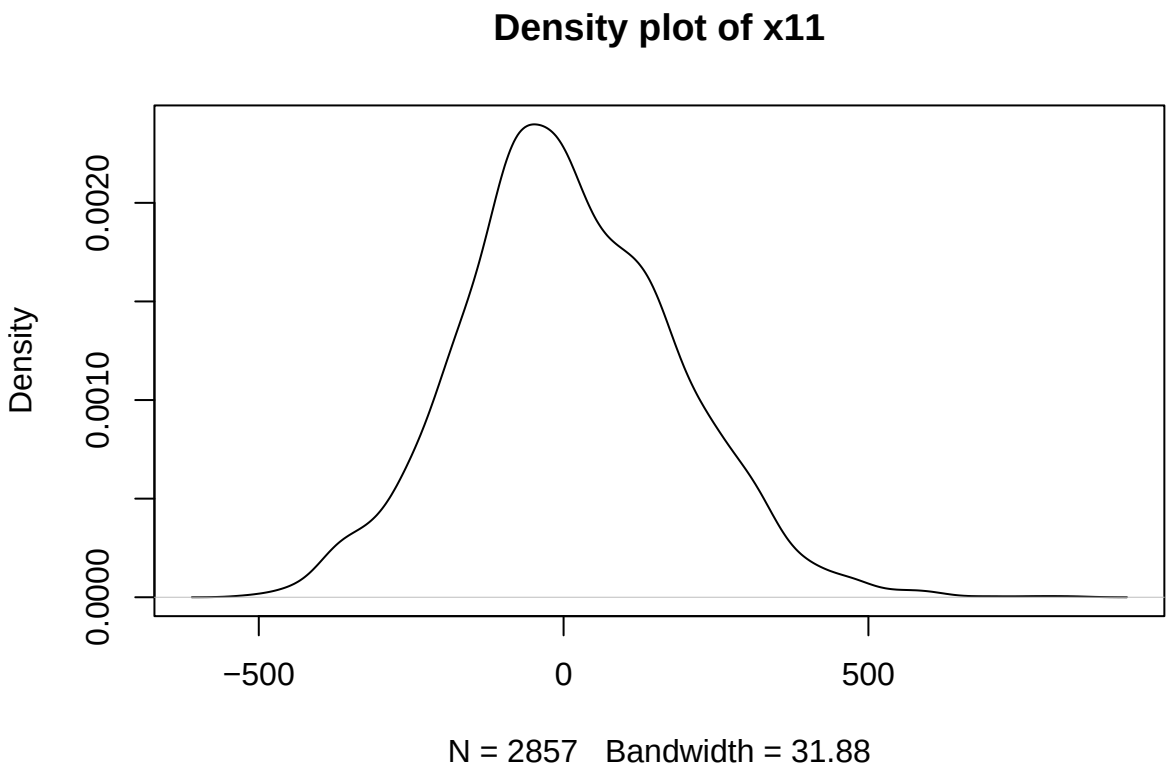

Histogram of x9
Frequency
0
100
200
300
0.6
0.7
0.8
0.9
1.0
Values

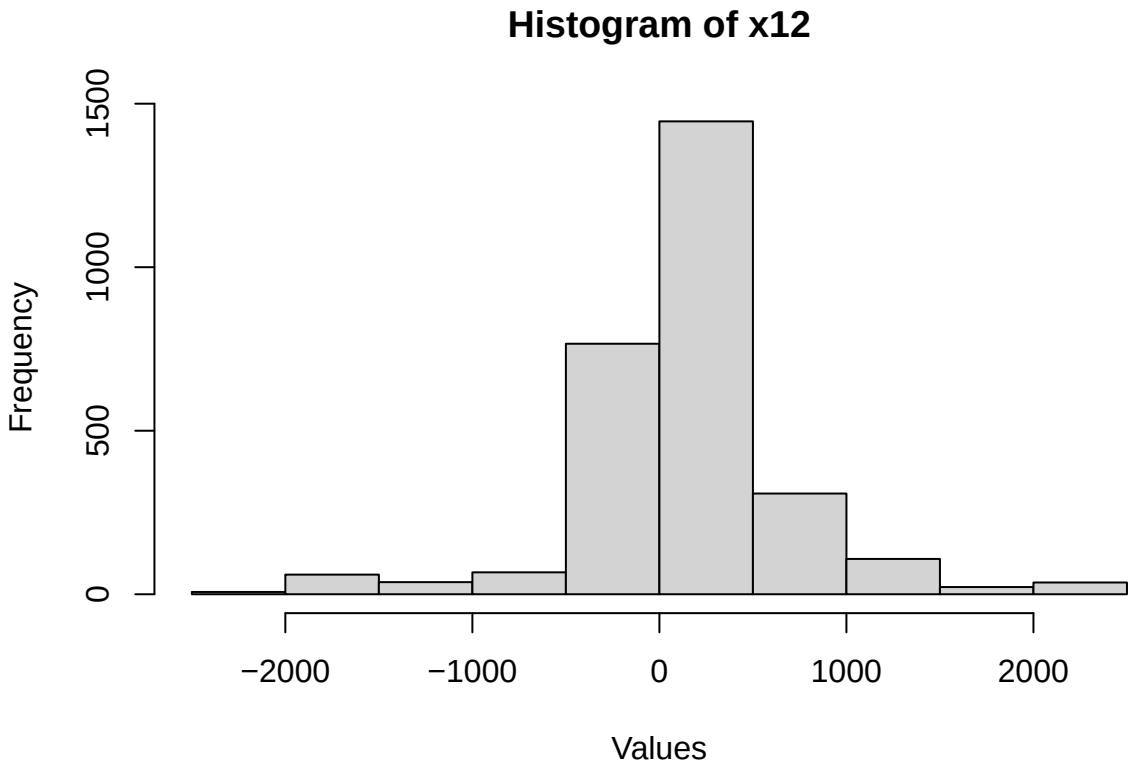

Density plot of x9
Density
0
1
2
3
4
5
6
7
0.6
0.7
0.8
0.9
1.0
N = 1033 Bandwidth = 0.01856

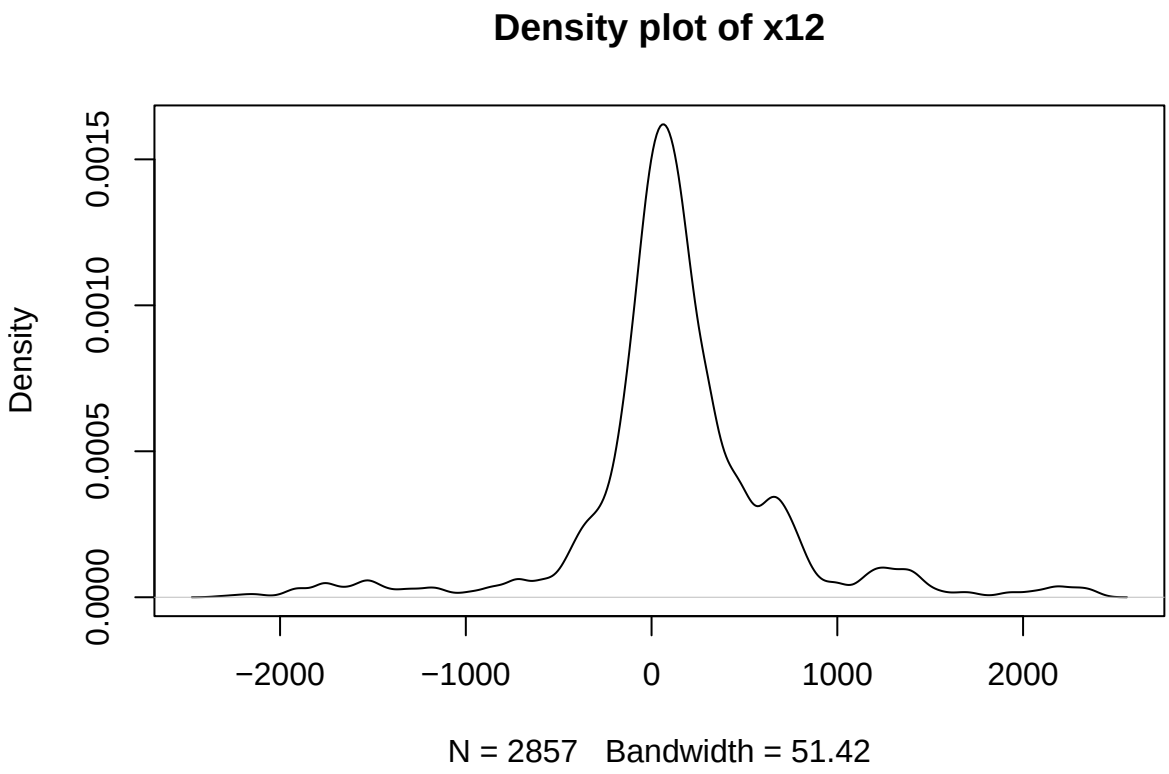

Histogram of x10
Frequency
0
100
300
500
0
1000
2000
3000
4000
Values

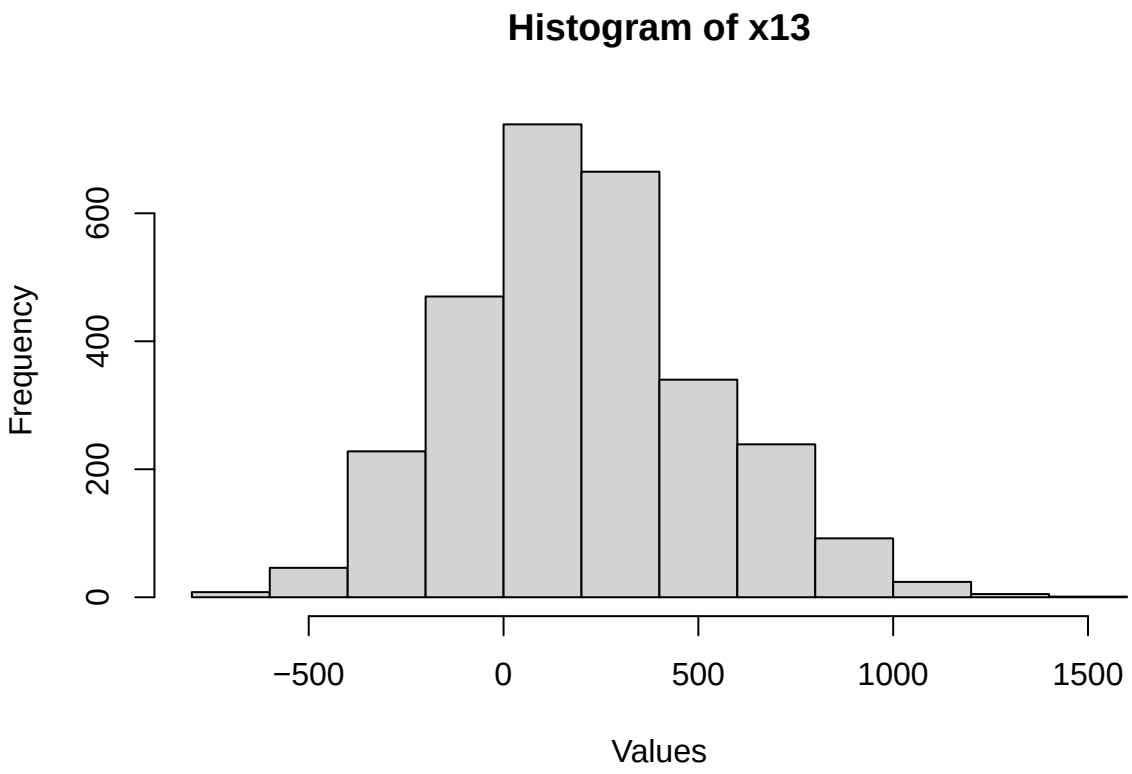

Density plot of x10
Density
0e+00
2e−04
4e−04
6e−04
−1000
0
1000
2000
3000
4000
N = 1788 Bandwidth = 144.4

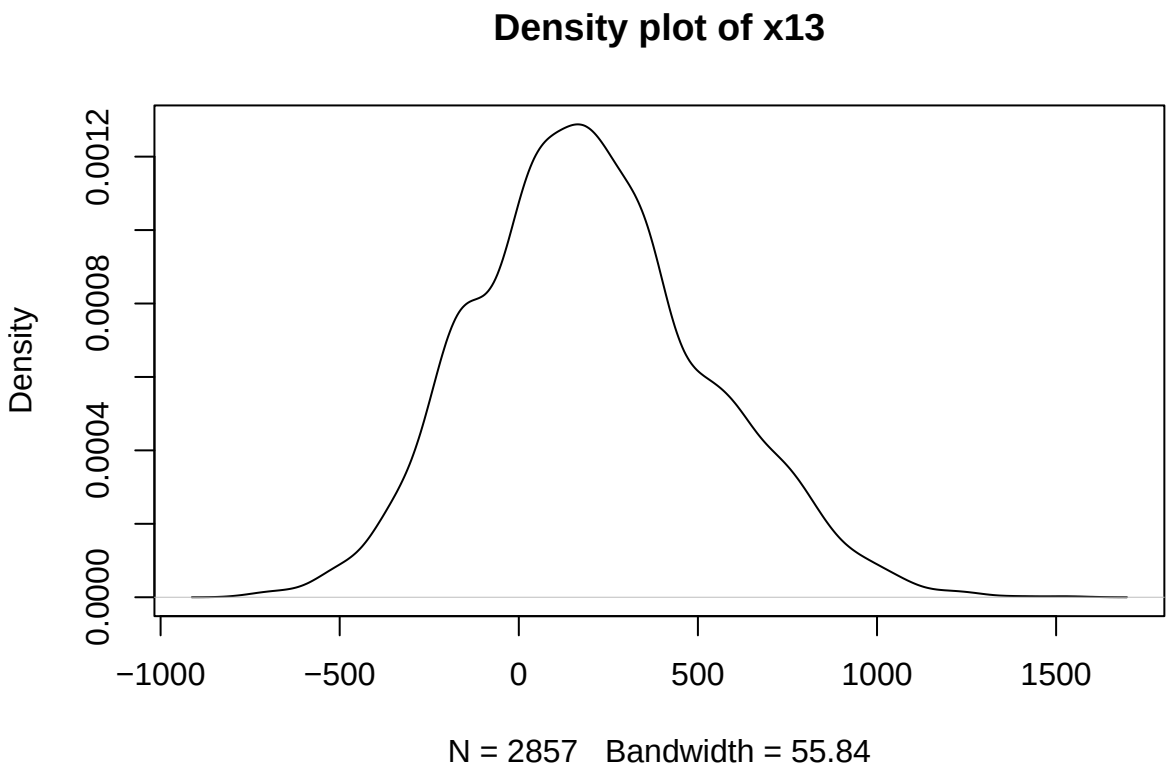

Histogram of x11
Frequency
0
100
300
500
700
−500
0
500
Values

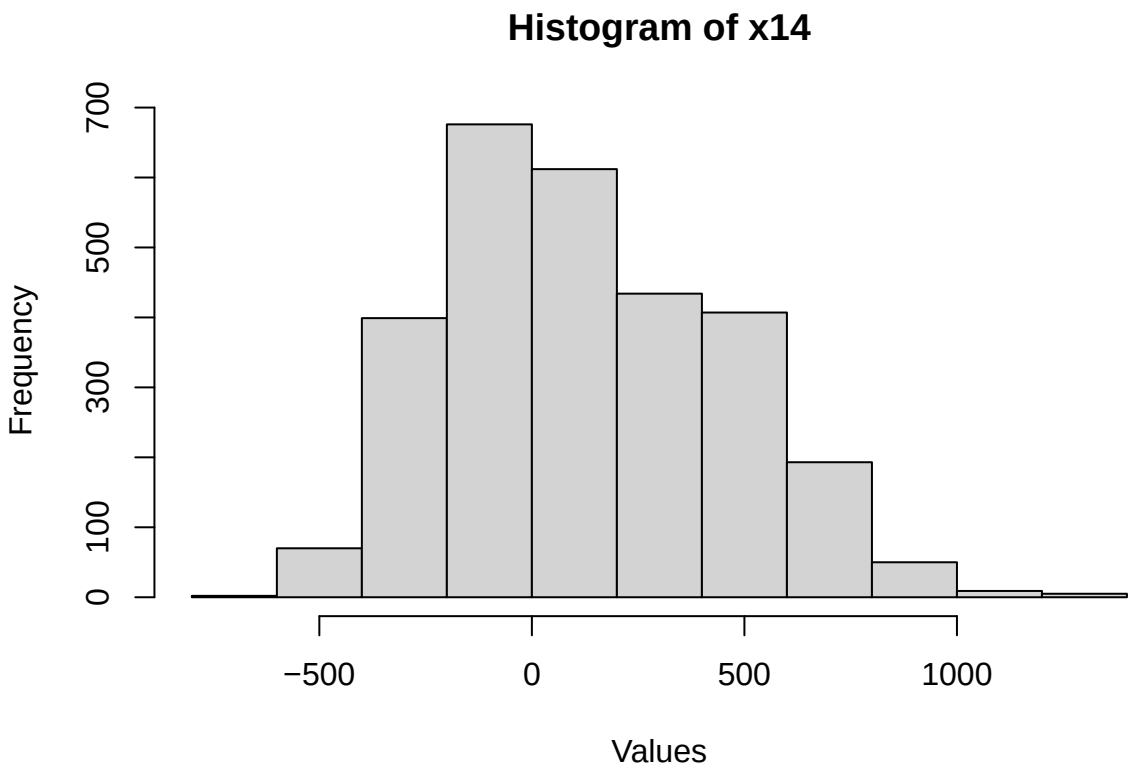

Density plot of x11
Density
0.0000
0.0010
0.0020
−500
0
500
N = 2857 Bandwidth = 31.88

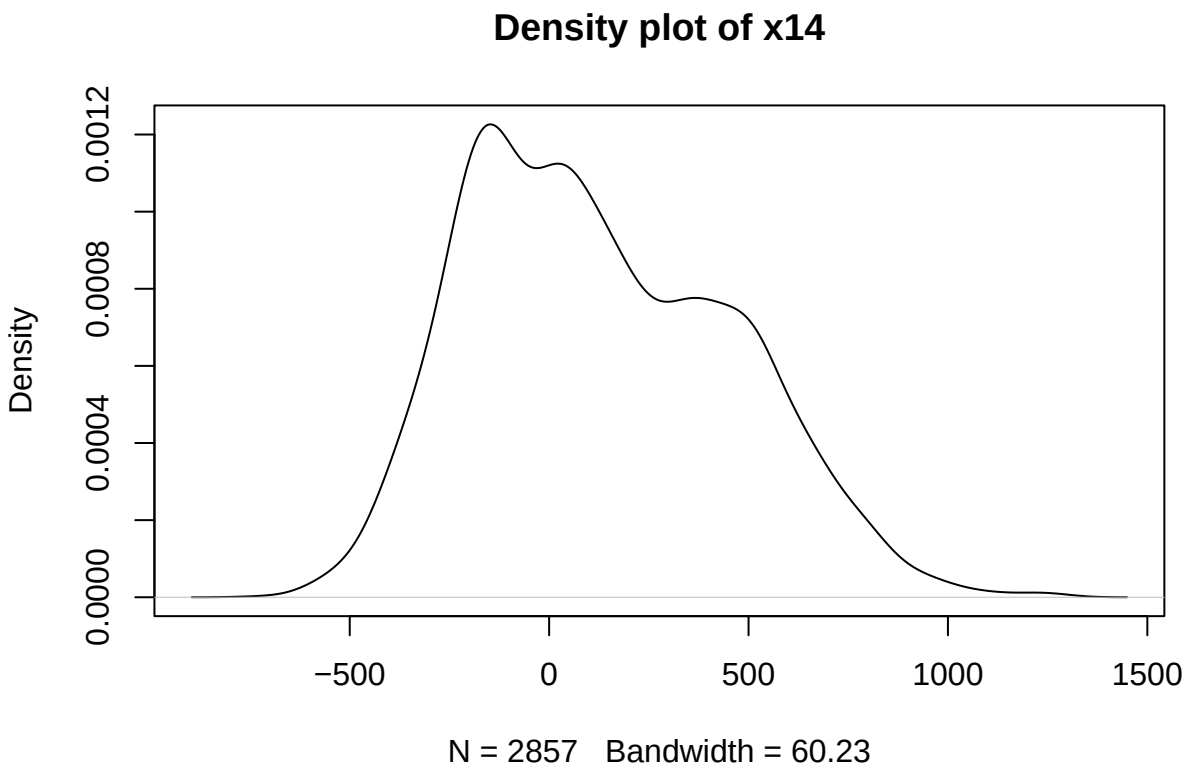

Histogram of x12
Frequency
0
500
1000
1500
−2000
−1000
0
1000
2000
Values

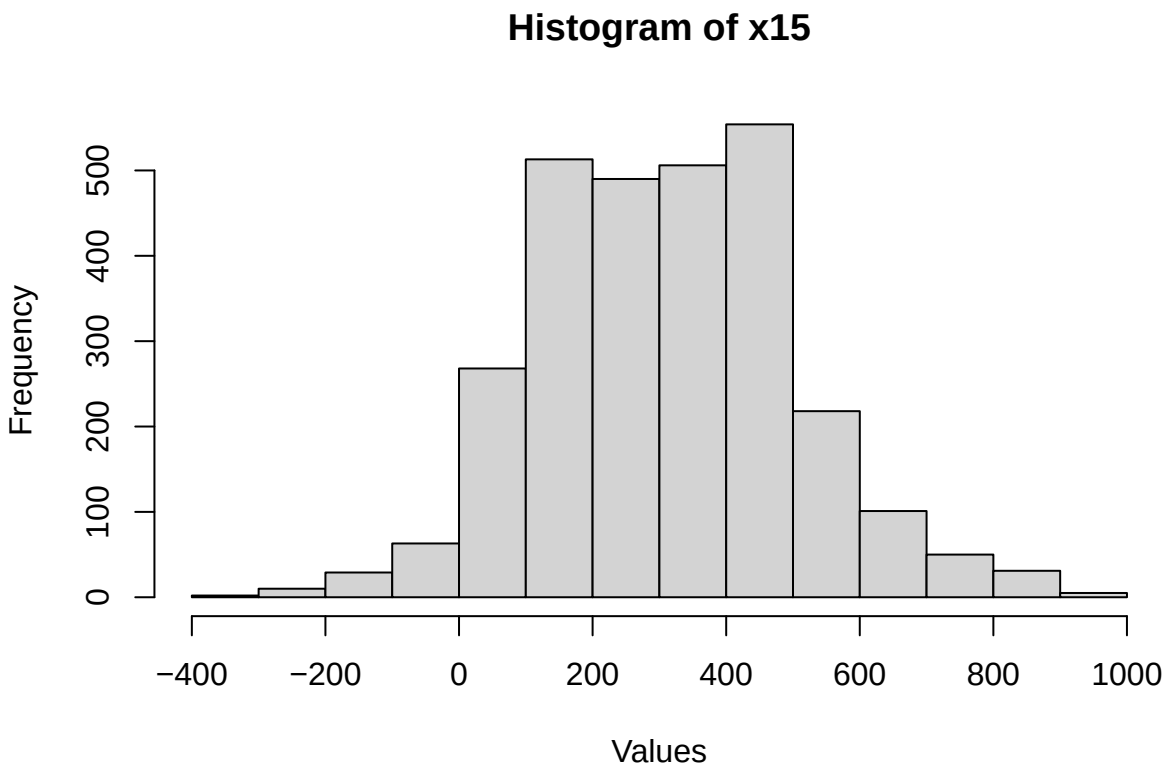

Density plot of x12
Density
0.0000
0.0005
0.0010
0.0015
−2000
−1000
0
1000
2000
N = 2857 Bandwidth = 51.42

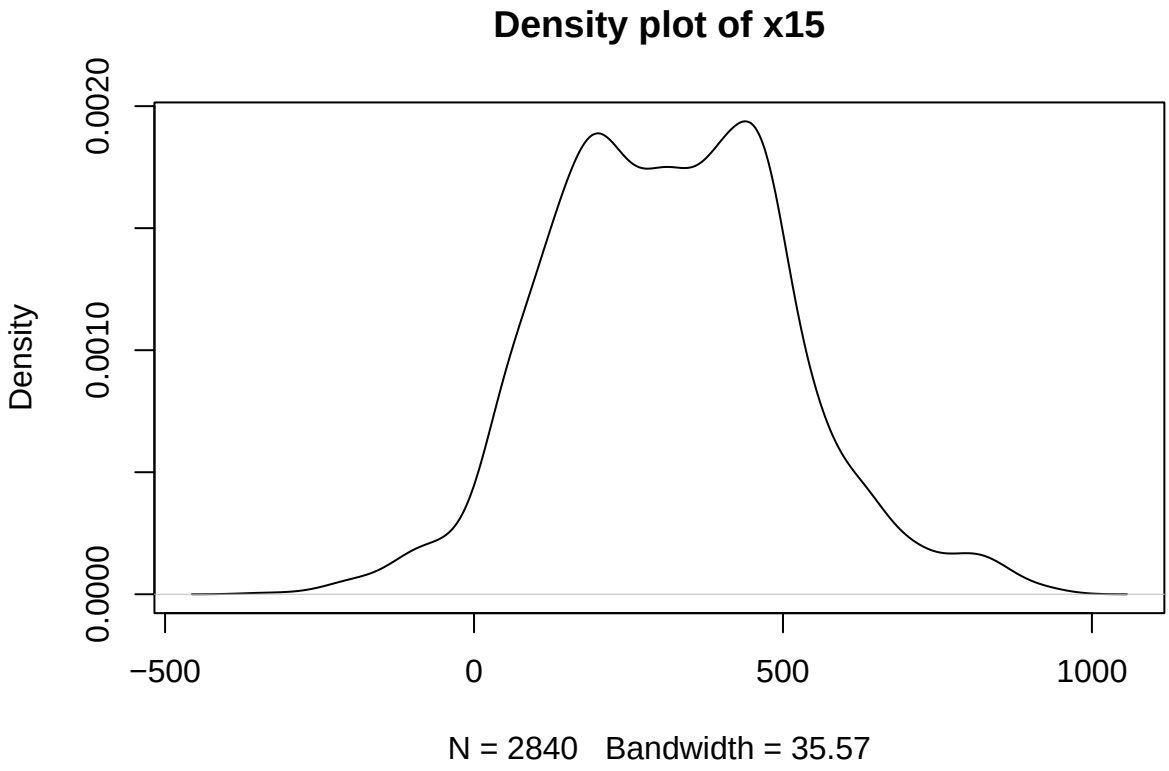

Histogram of x13
Frequency
0
200
400
600
−500
0
500
1000
1500
Values

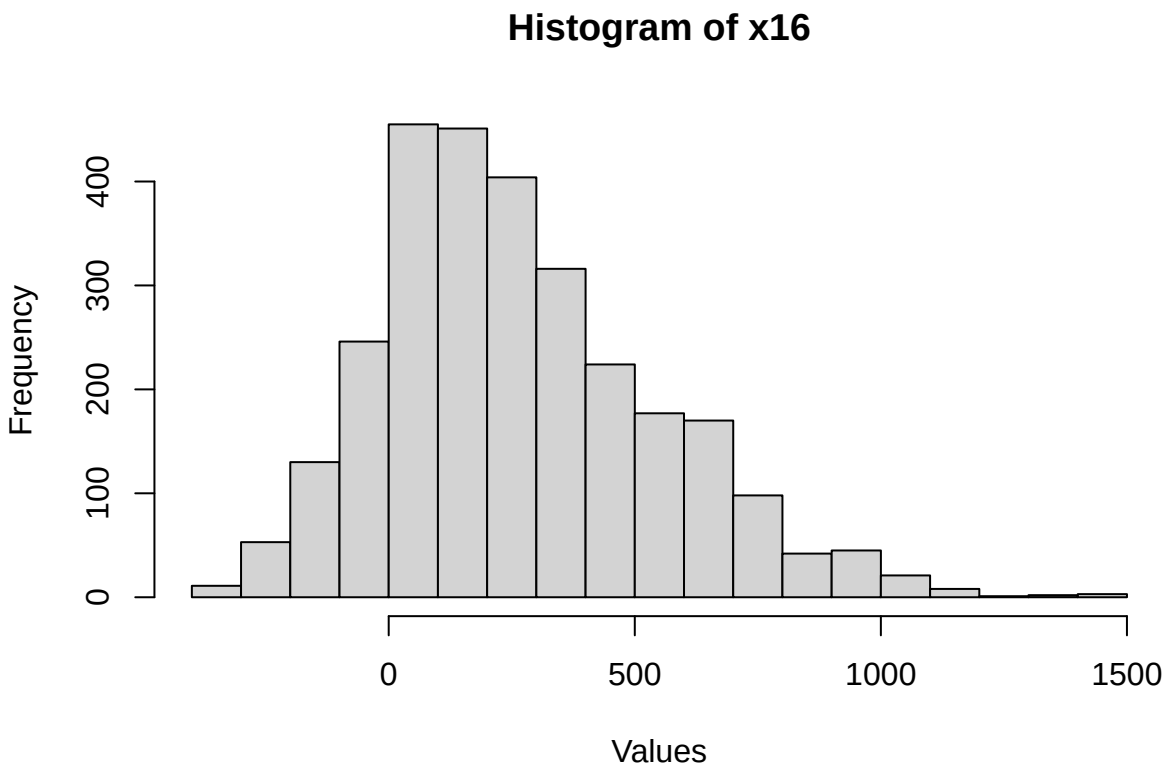

Density plot of x13
Density
0.0000
0.0004
0.0008
0.0012
−1000
−500
0
500
1000
1500
N = 2857 Bandwidth = 55.84

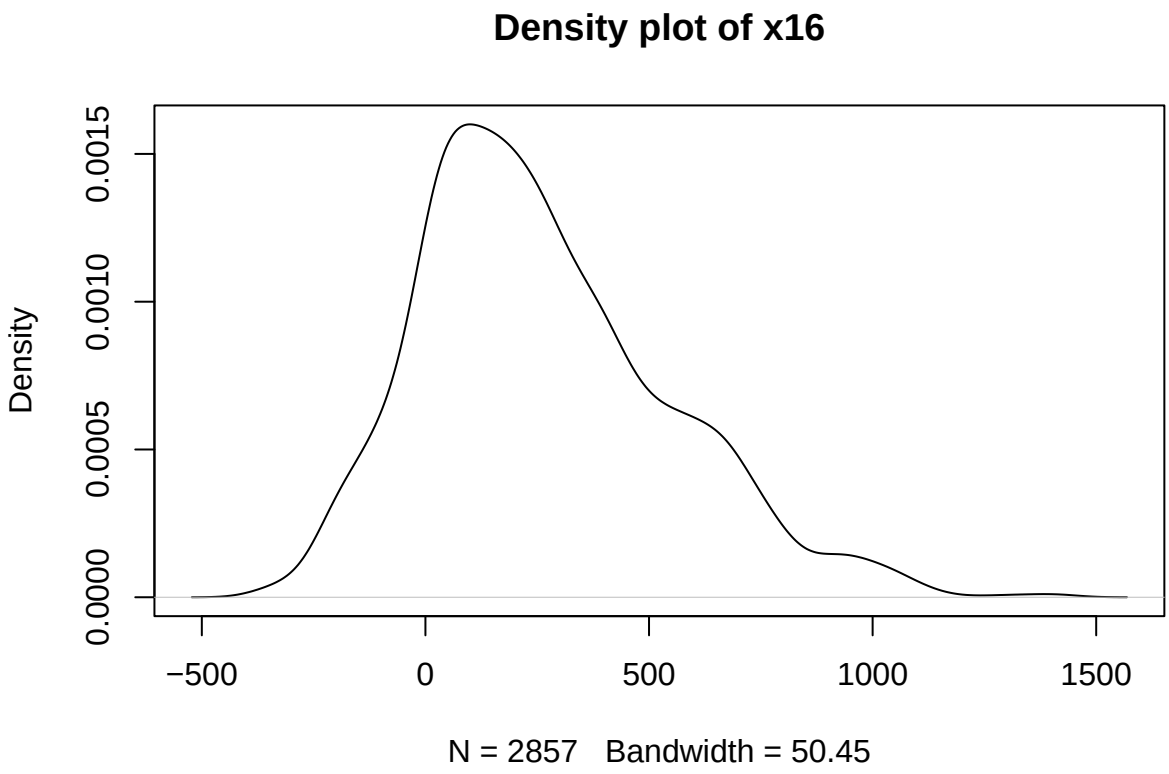

Histogram of x14
Frequency
0
100
300
500
700
−500
0
500
1000
Values

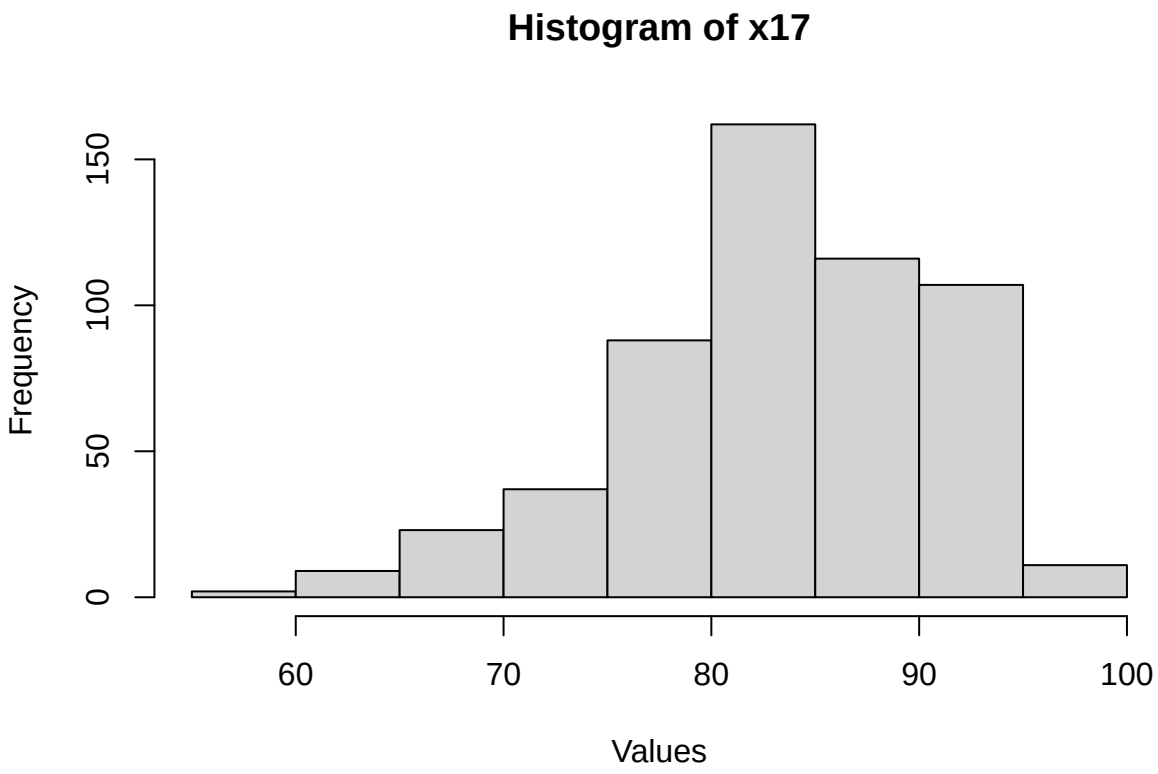

Density plot of x14
Density
0.0000
0.0004
0.0008
0.0012
−500
0
500
1000
1500
N = 2857 Bandwidth = 60.23

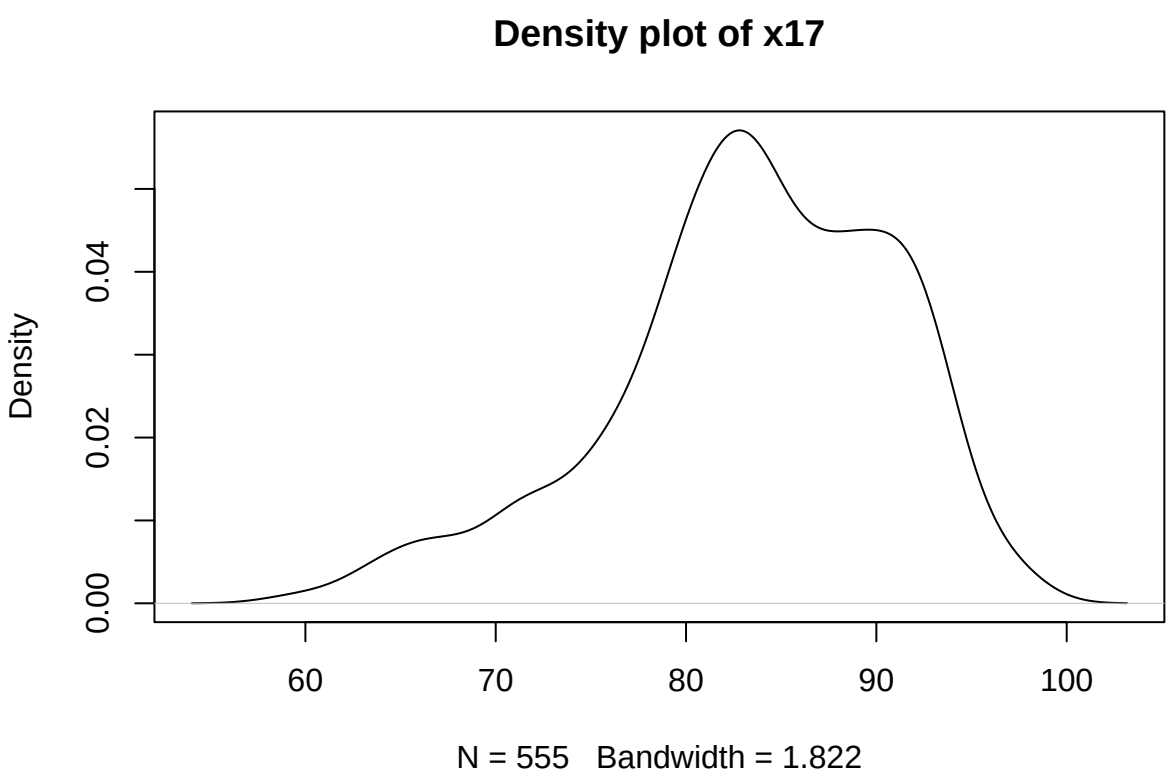

Histogram of x15
Frequency
0
100
200
300
400
500
−400
−200
0
200
400
600
800
1000
Values

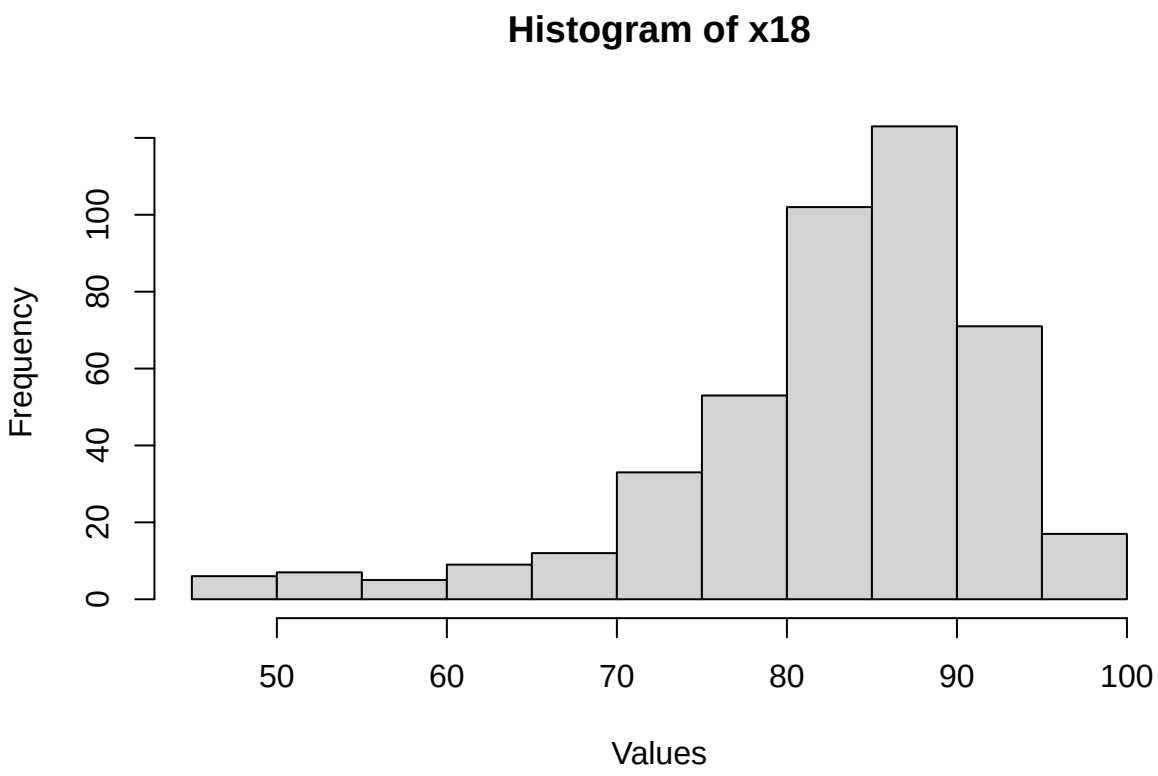

Density plot of x15
Density
0.0000
0.0010
0.0020
−500
0
500
1000
N = 2840 Bandwidth = 35.57

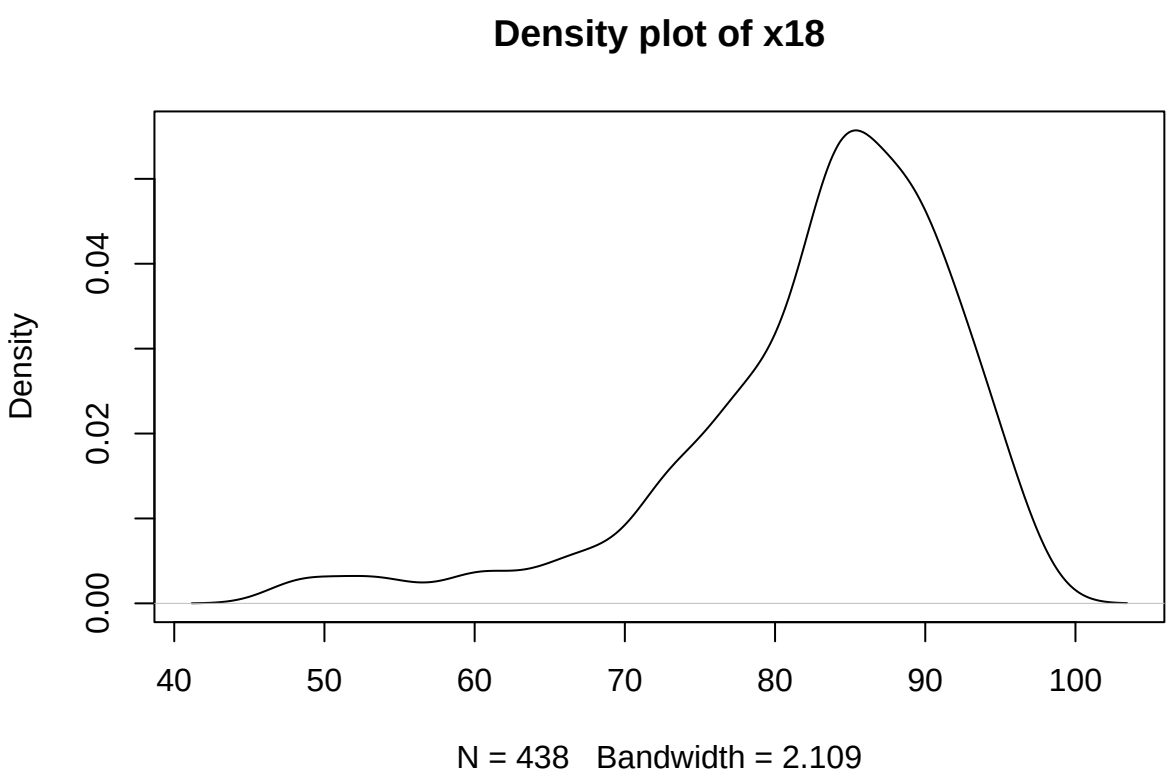

Histogram of x16
Frequency
0
100
200
300
400
0
500
1000
1500
Values

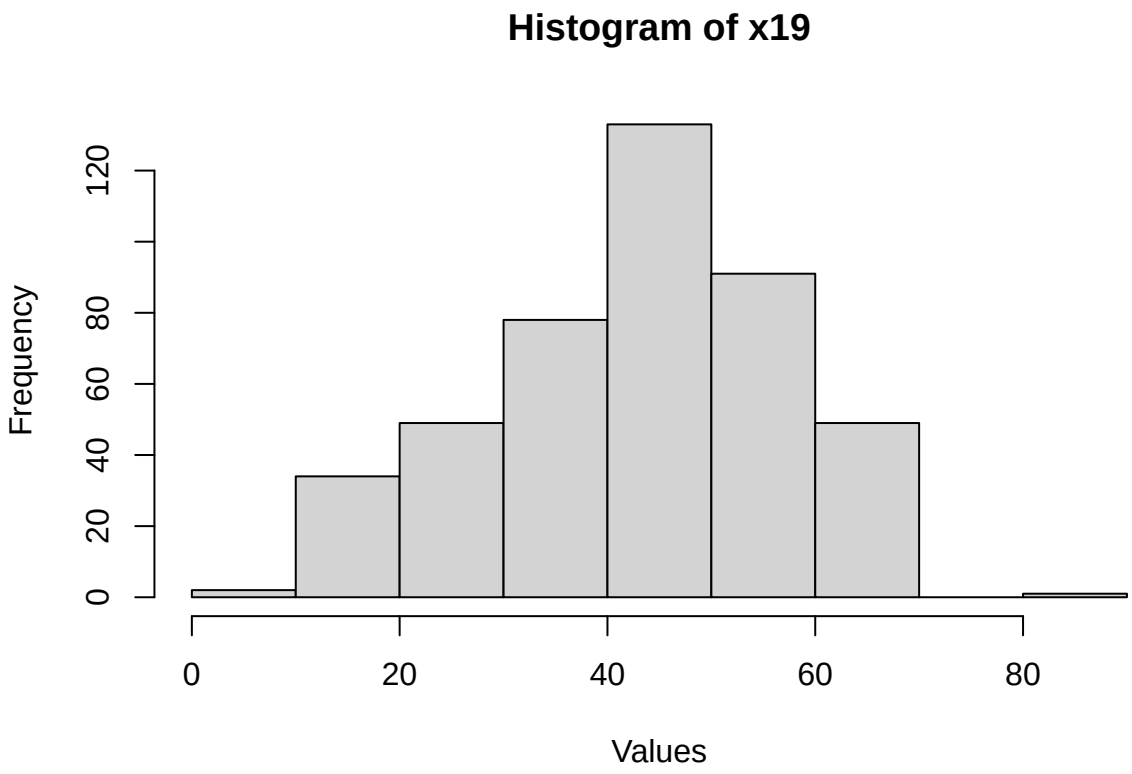

Density plot of x16
Density
0.0000
0.0005
0.0010
0.0015
−500
0
500
1000
1500
N = 2857 Bandwidth = 50.45

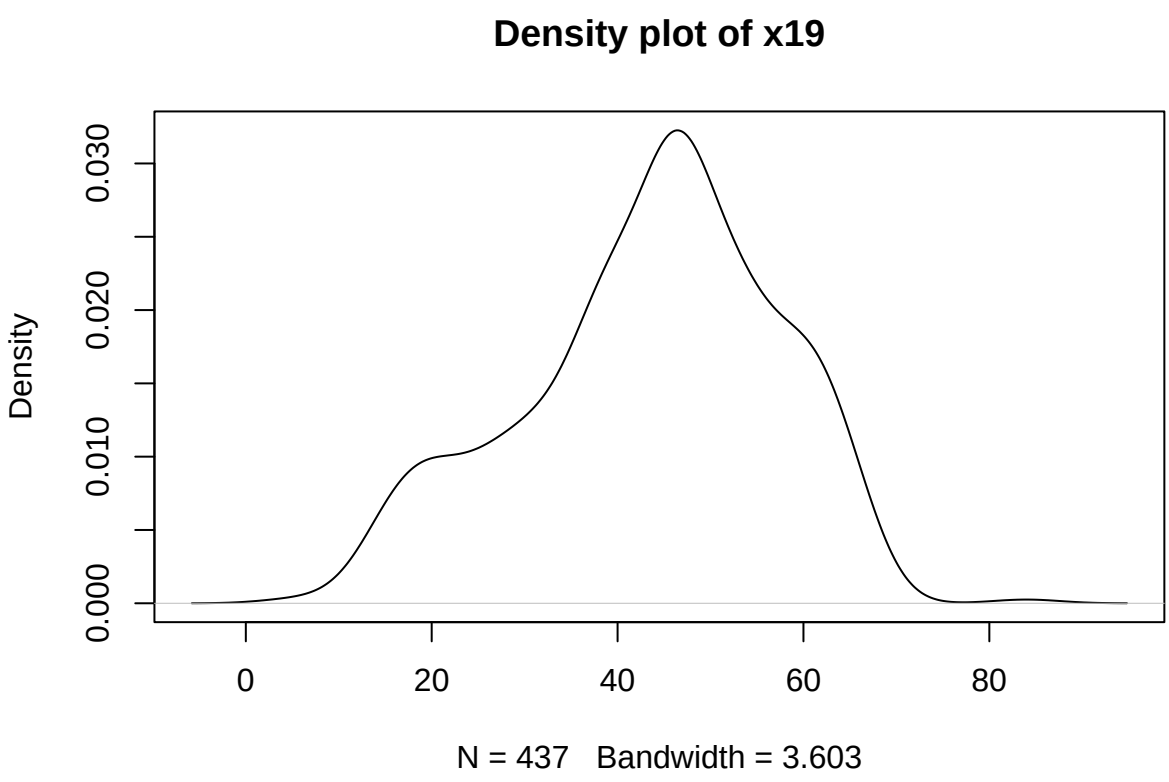

Histogram of x17
Frequency
0
50
100
150
60
70
80
90
100
Values

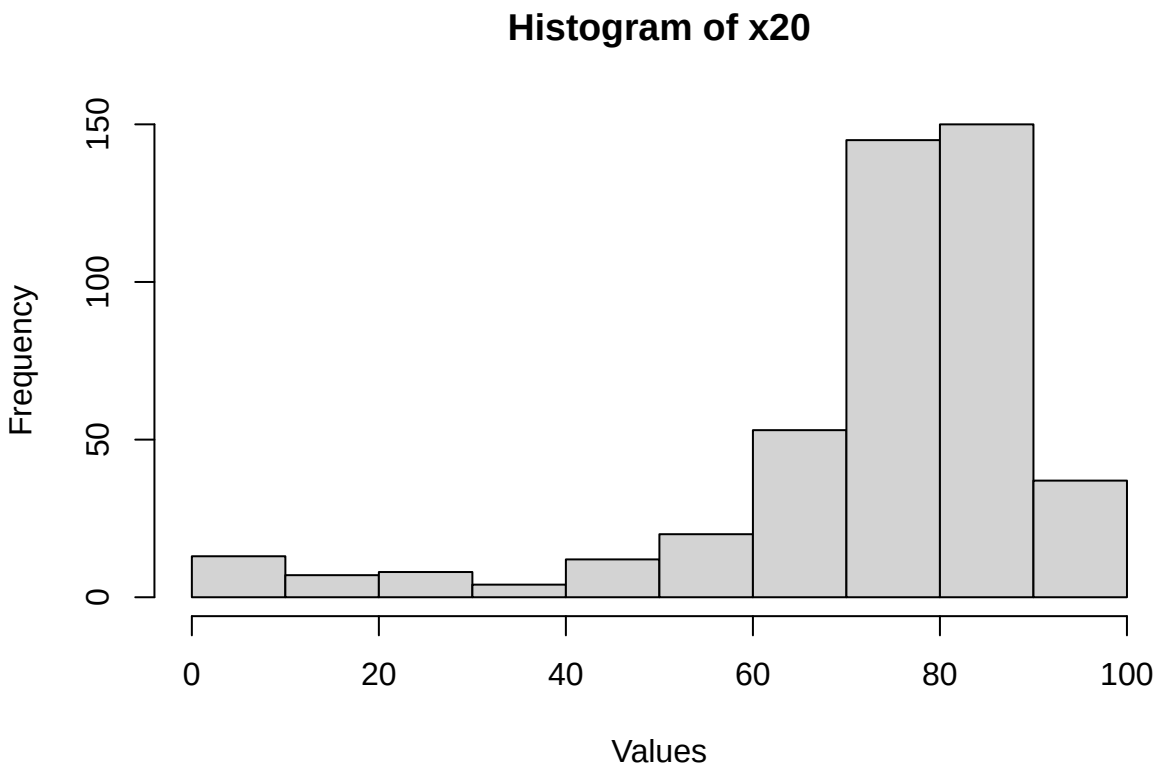

Density plot of x17
Density
0.00
0.02
0.04
60
70
80
90
100
N = 555 Bandwidth = 1.822

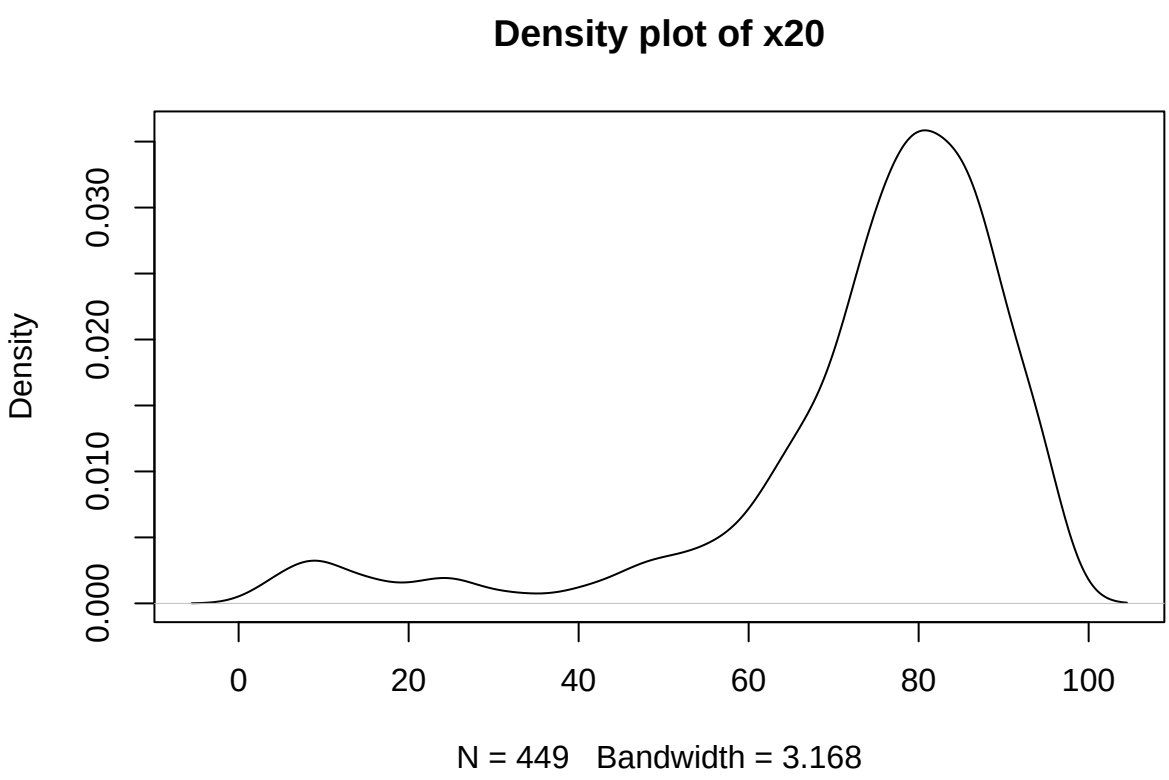

Histogram of x18
Frequency
0
20
40
60
80
100
50
60
70
80
90
100
Values

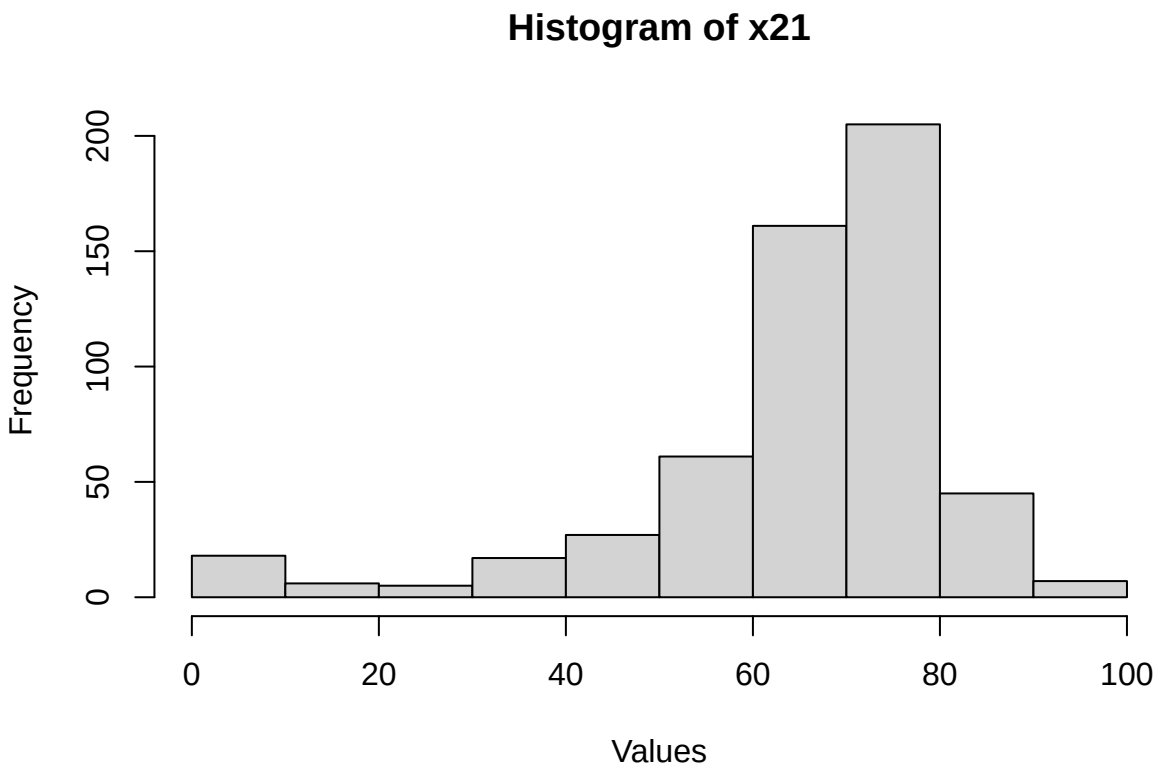

Density plot of x18
Density
0.00
0.02
0.04
40
50
60
70
80
90
100
N = 438 Bandwidth = 2.109

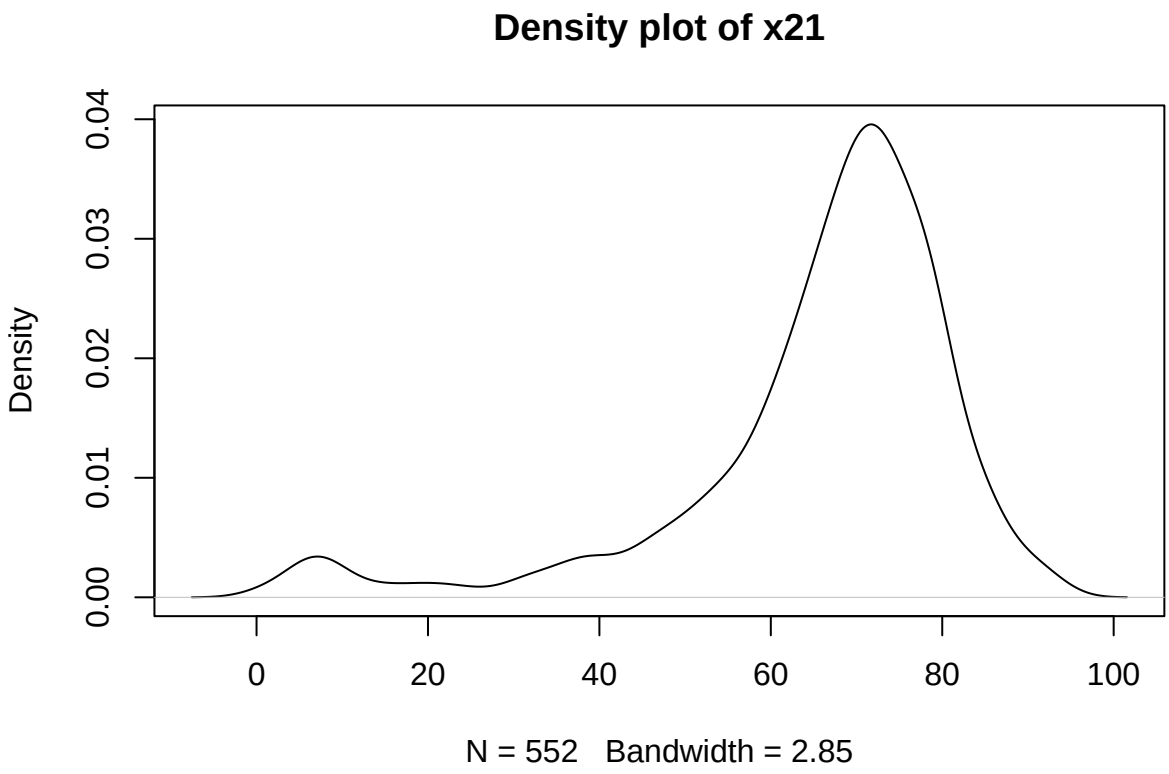

Histogram of x19
Frequency
0
20
40
60
80
120
0
20
40
60
80
Values

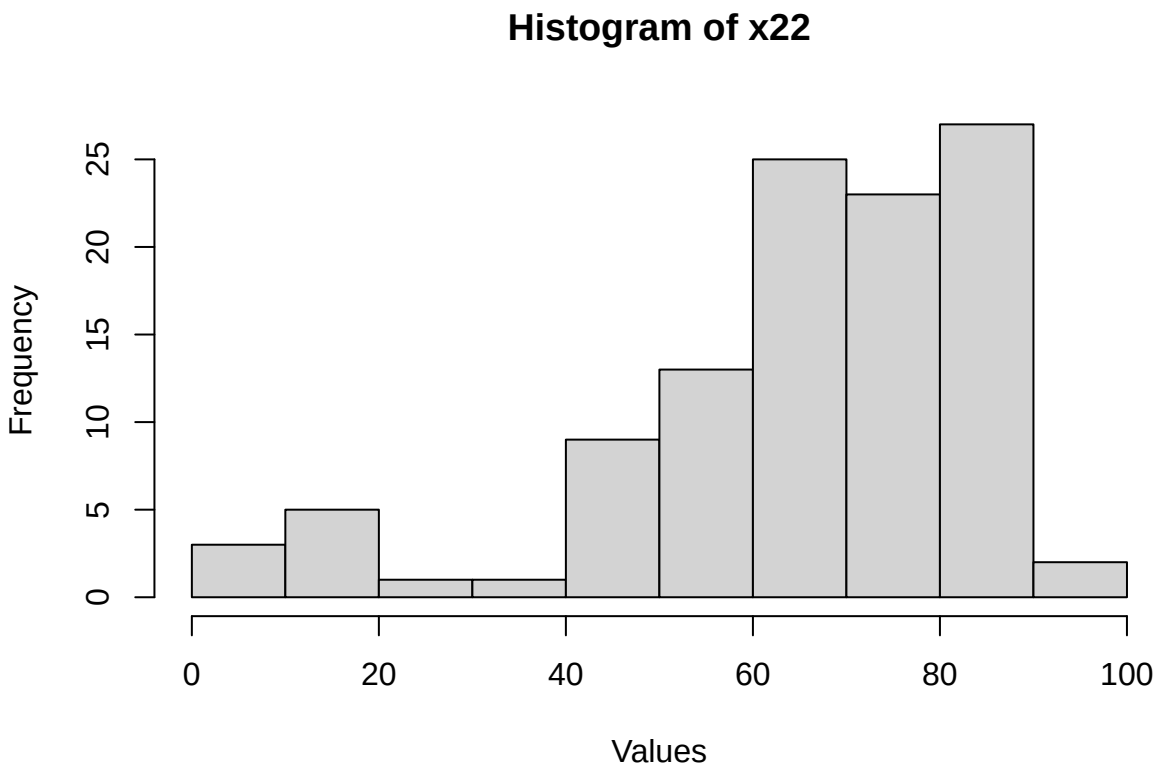

Density plot of x19
Density
0.000
0.010
0.020
0.030
0
20
40
60
80
N = 437 Bandwidth = 3.603

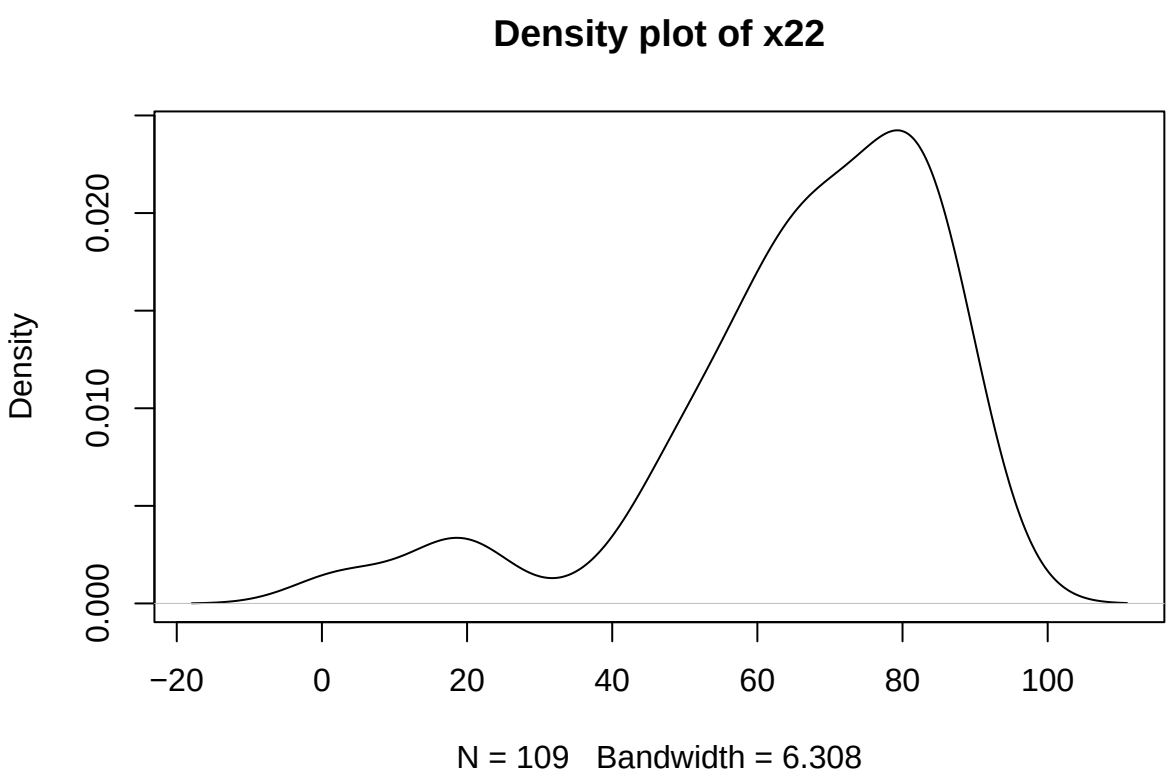

Histogram of x20
Frequency
0
50
100
150
0
20
40
60
80
100
Values

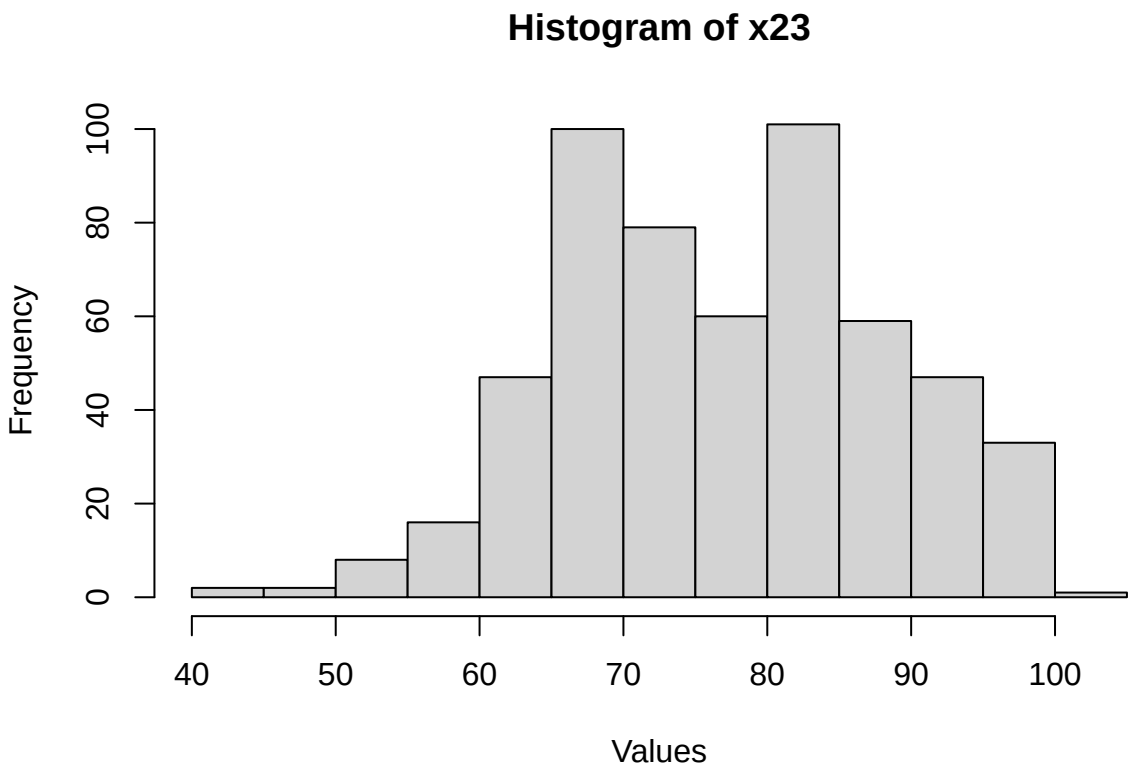

Density plot of x20
Density
0.000
0.010
0.020
0.030
0
20
40
60
80
100
N = 449 Bandwidth = 3.168

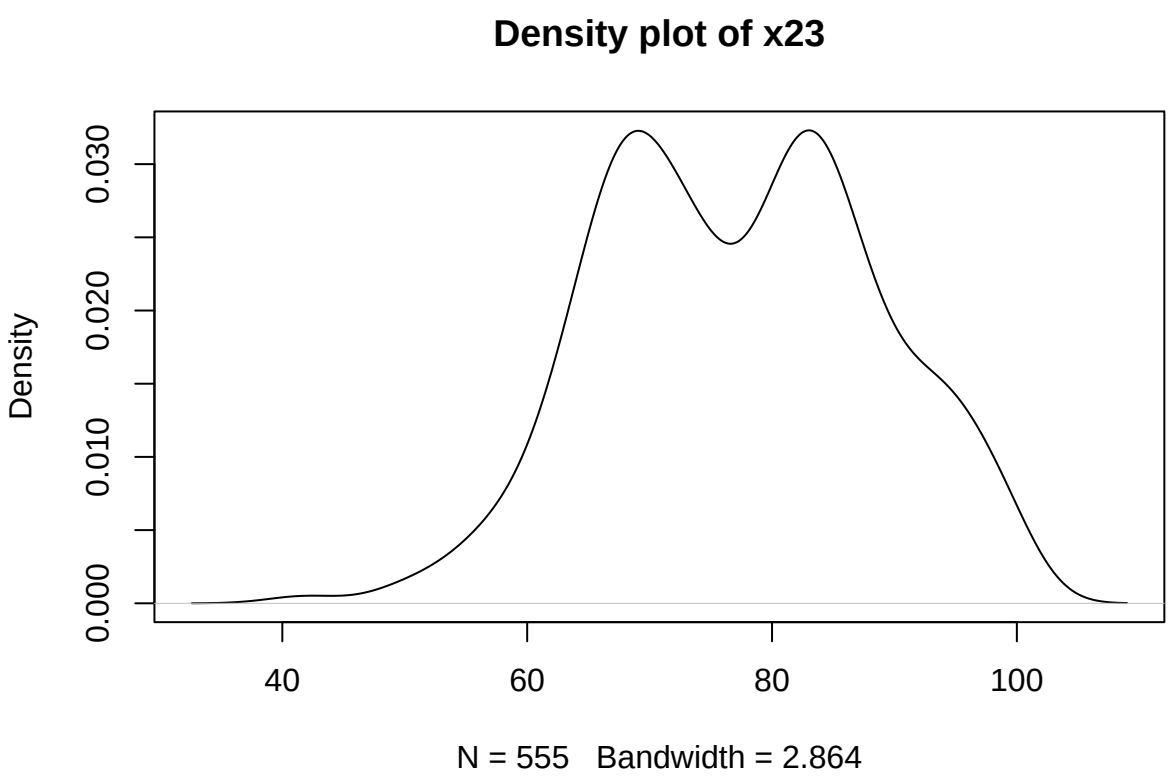

Histogram of x21
Frequency
0
50
100
150
200
0
20
40
60
80
100
Values


Density plot of x21
Density
0.00
0.01
0.02
0.03
0.04
0
20
40
60
80
100
N = 552 Bandwidth = 2.85

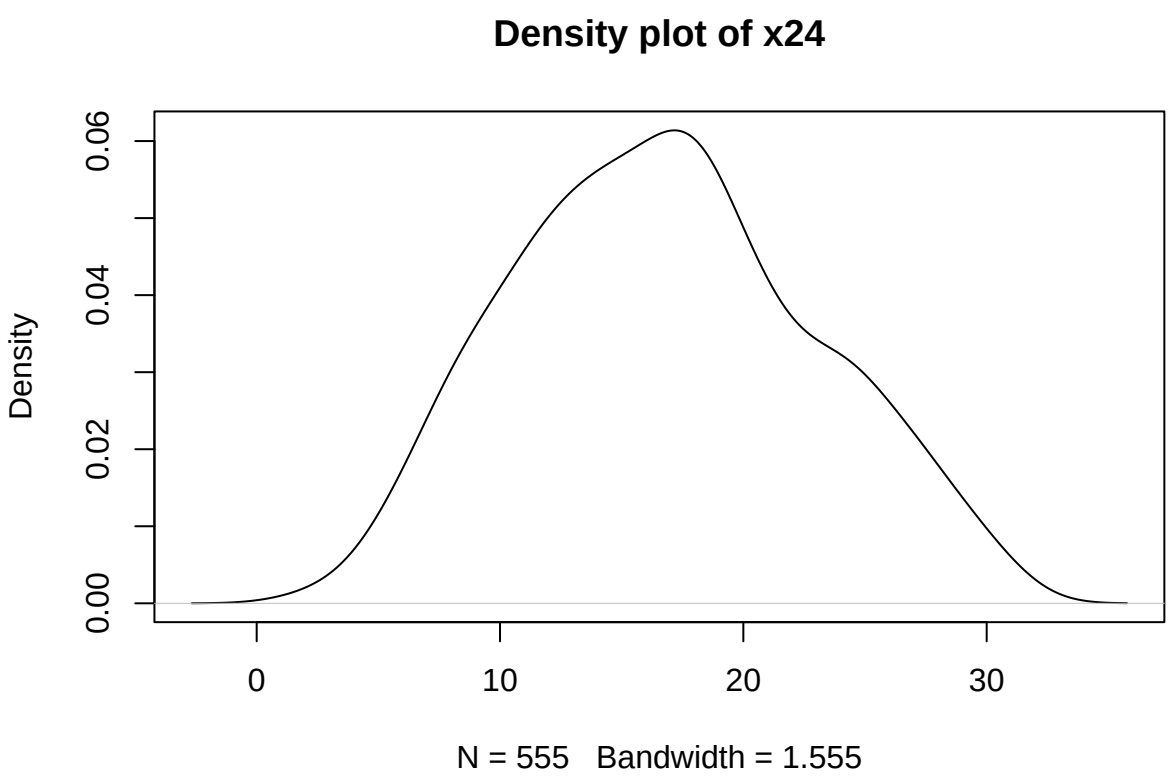

Histogram of x22
Frequency
0
5
10
15
20
25
0
20
40
60
80
100
Values

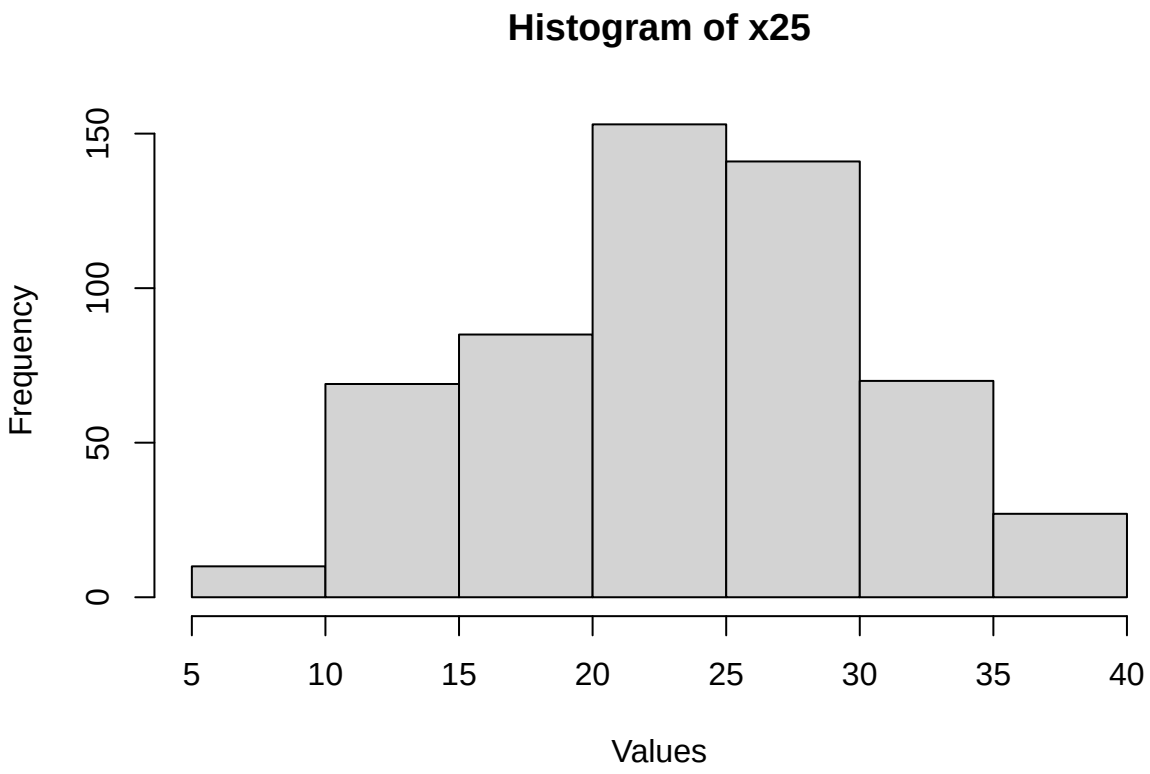

Density plot of x22
Density
0.000
0.010
0.020
−20
0
20
40
60
80
100
N = 109 Bandwidth = 6.308

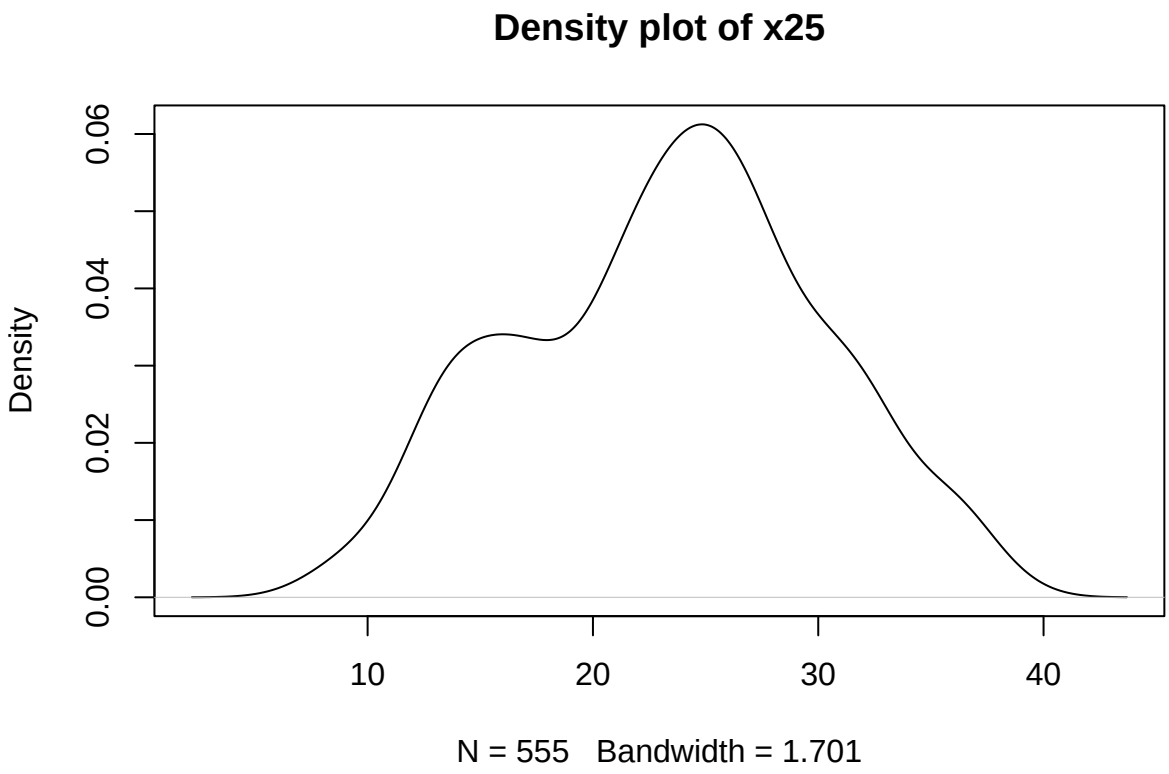

Histogram of x23
Frequency
0
20
40
60
80
100
40
50
60
70
80
90
100
Values

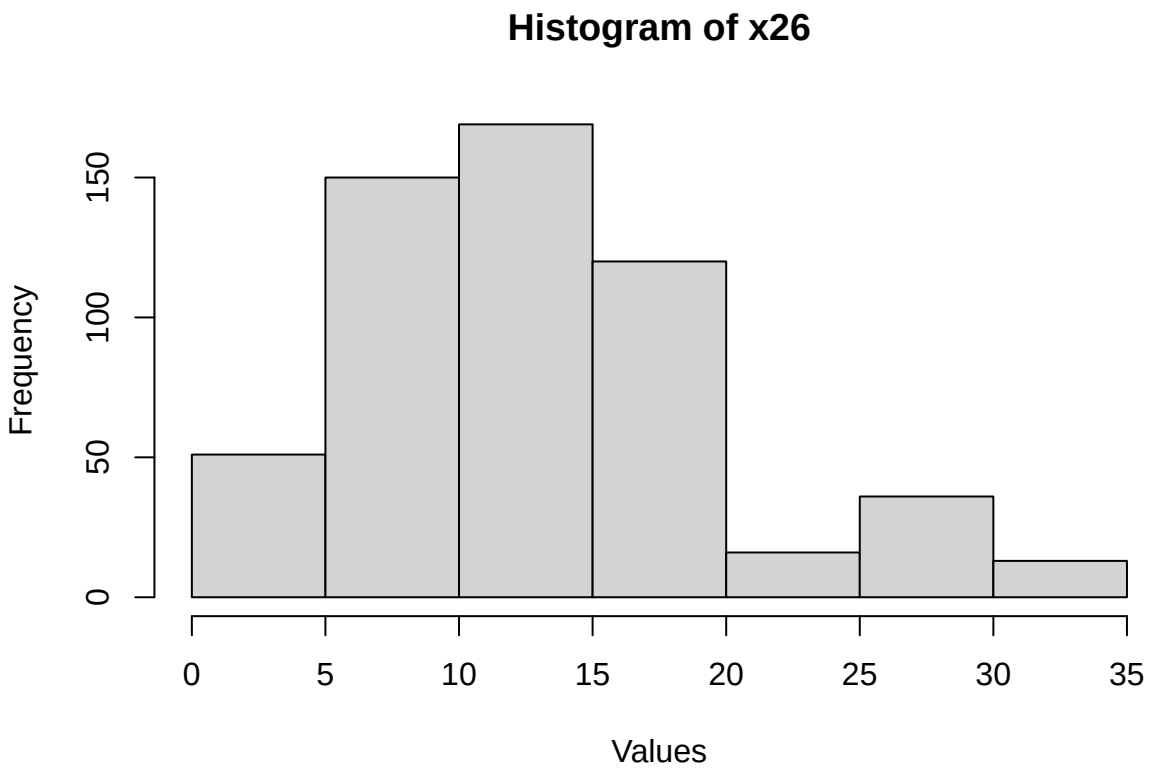

Density plot of x23
Density
0.000
0.010
0.020
0.030
40
60
80
100
N = 555 Bandwidth = 2.864

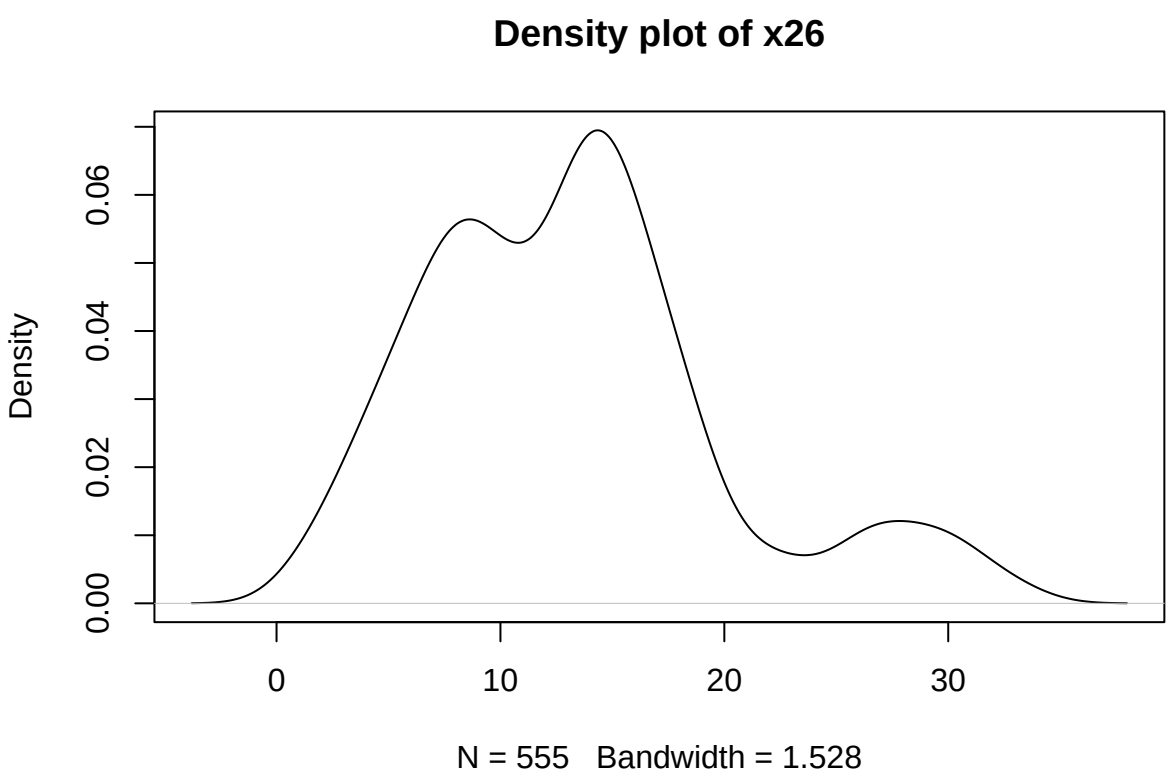

Histogram of x24
Frequency
0
10
20
30
40
50
60
70
5
10
15
20
25
30
Values

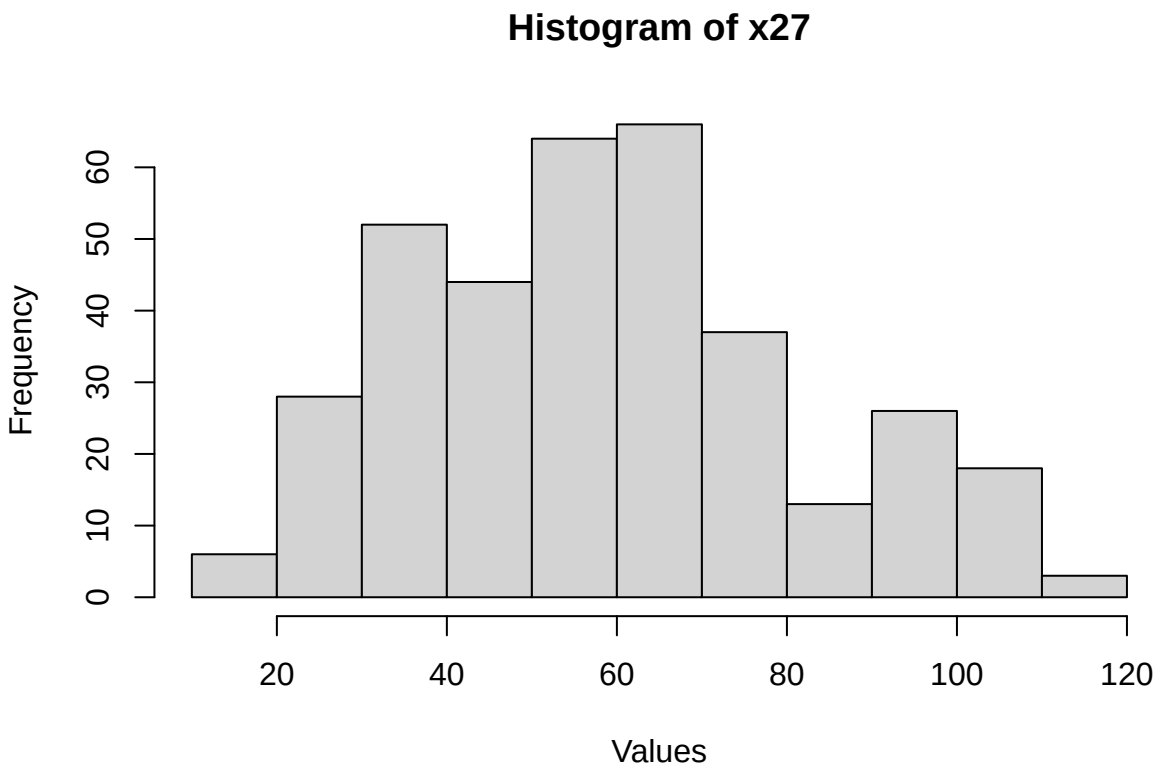

Density plot of x24
Density
0.00
0.02
0.04
0.06
0
10
20
30
N = 555 Bandwidth = 1.555

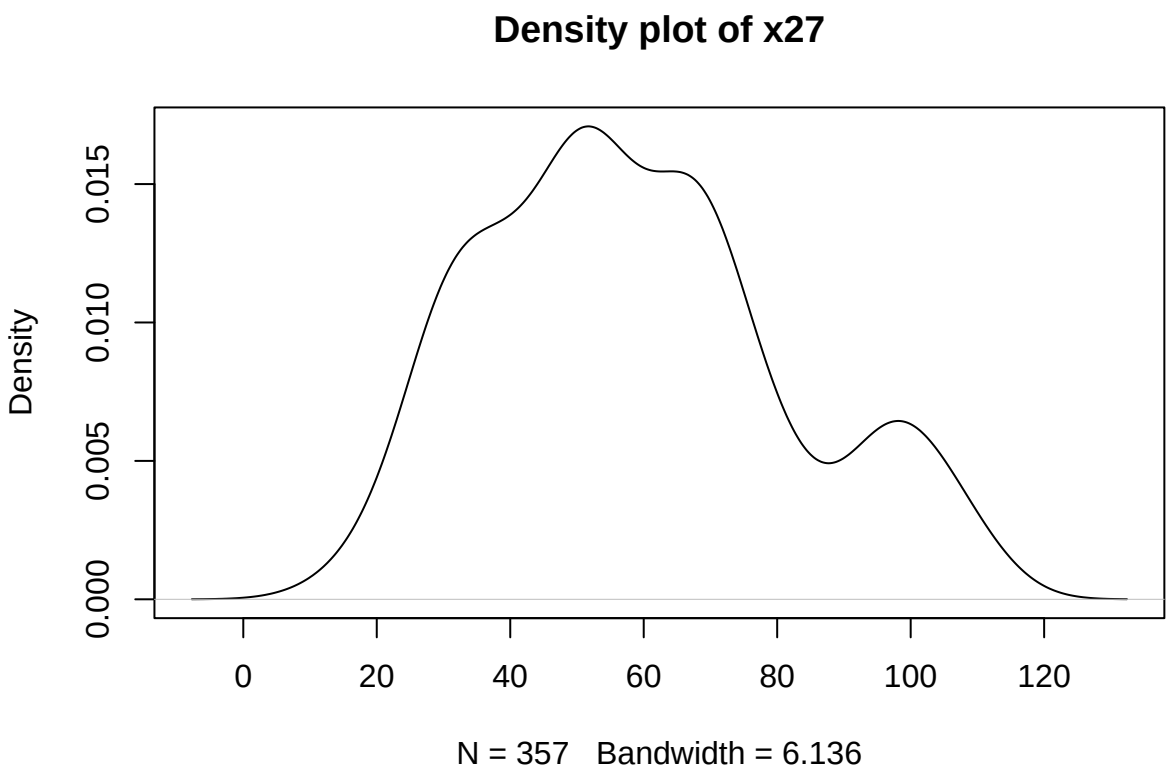

Histogram of x25
Frequency
0
50
100
150
5
10
15
20
25
30
35
40
Values

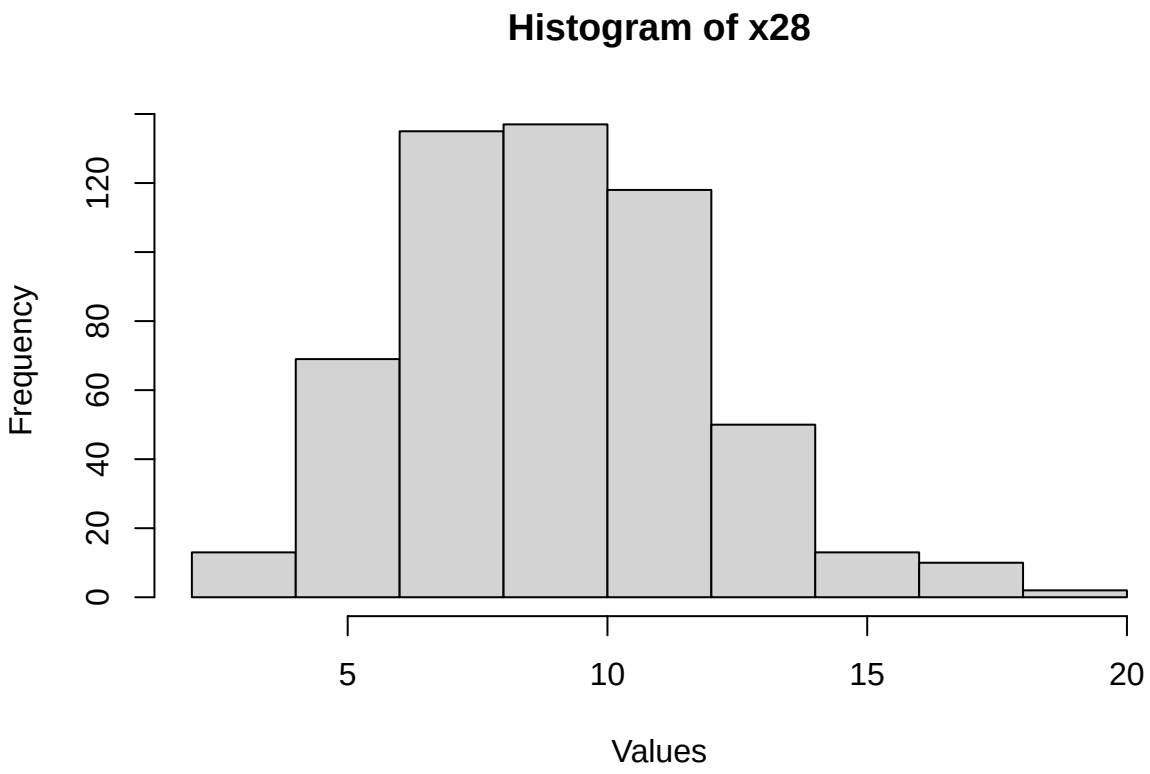

Density plot of x25
Density
0.00
0.02
0.04
0.06
10
20
30
40
N = 555 Bandwidth = 1.701

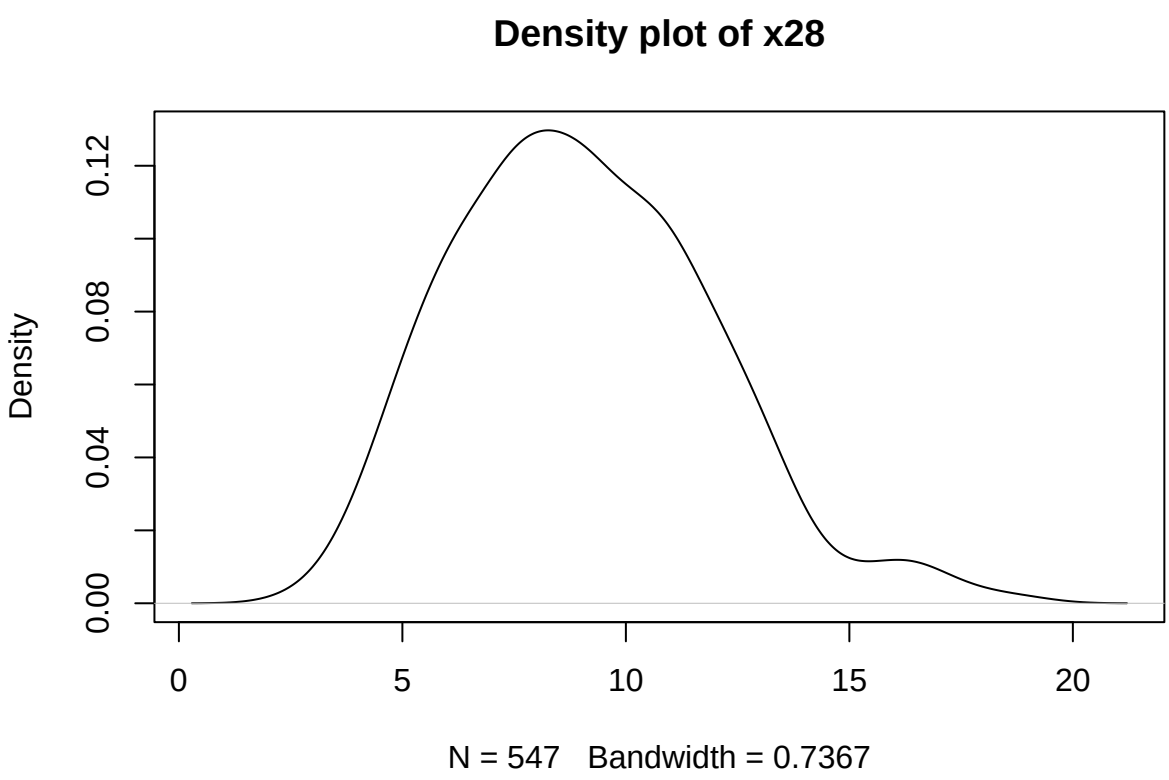

Histogram of x26
Frequency
0
50
100
150
0
5
10
15
20
25
30
35
Values

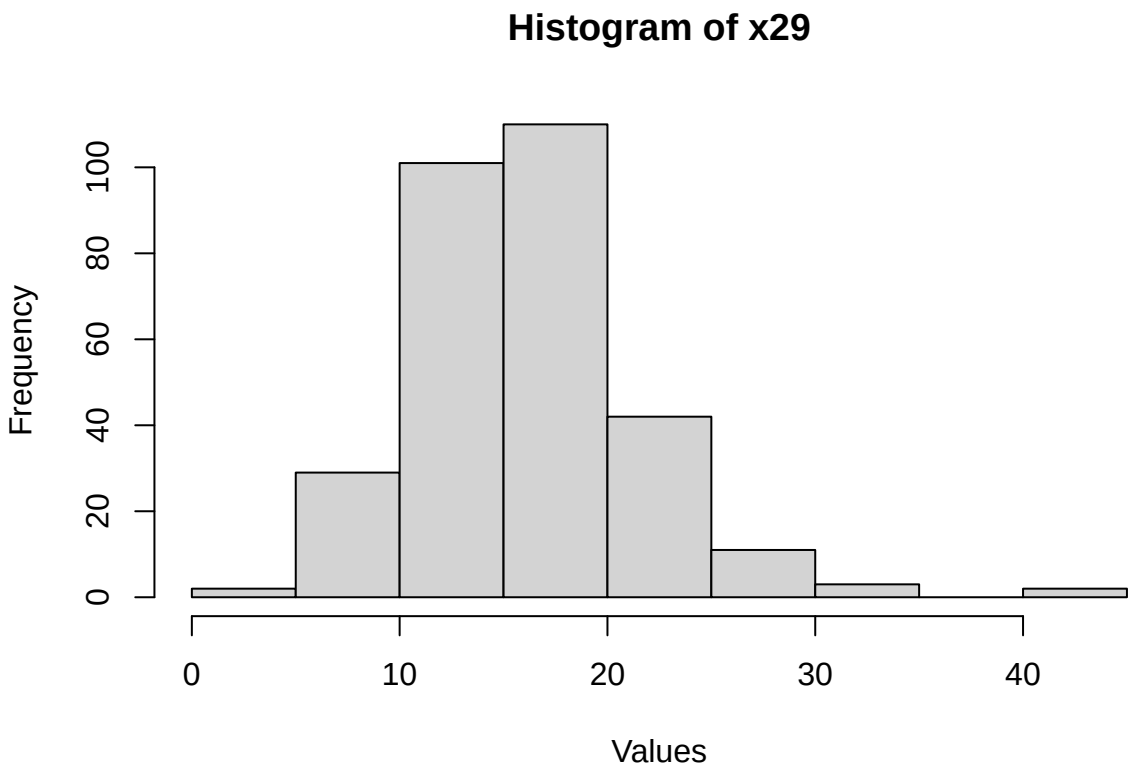

Density plot of x26
Density
0.00
0.02
0.04
0.06
0
10
20
30
N = 555 Bandwidth = 1.528

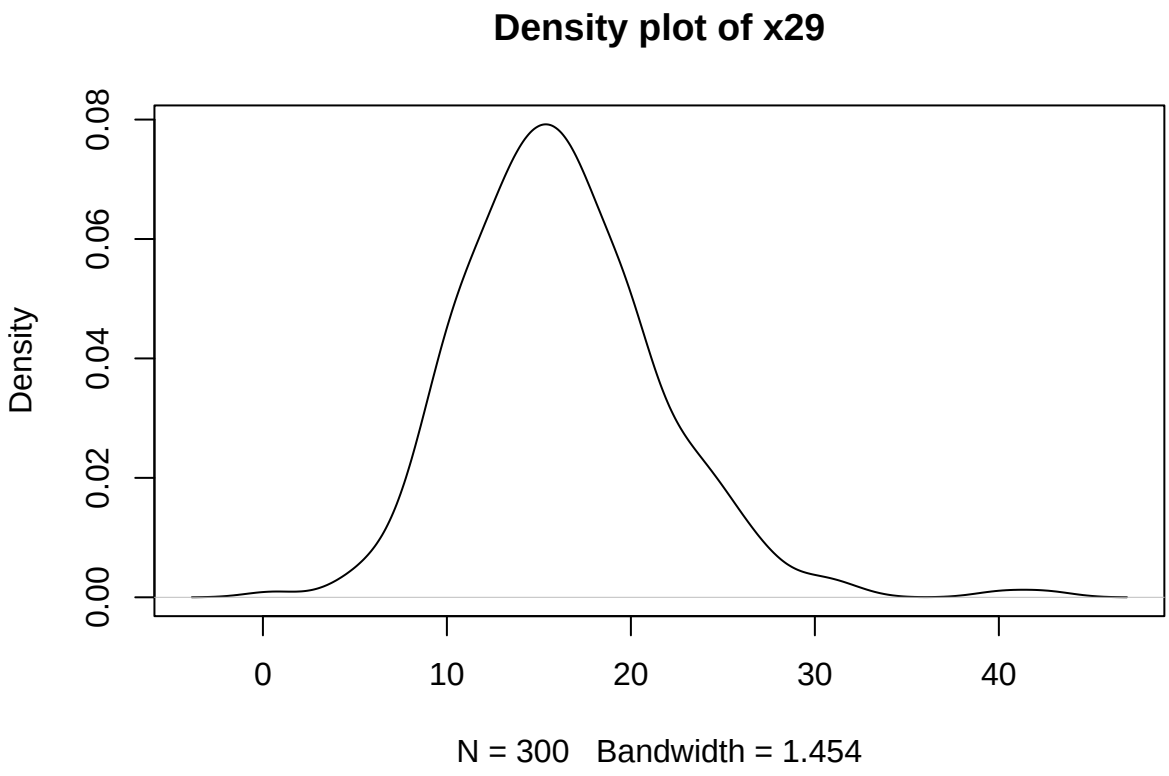

Histogram of x27
Frequency
0
10
20
30
40
50
60
20
40
60
80
100
120
Values

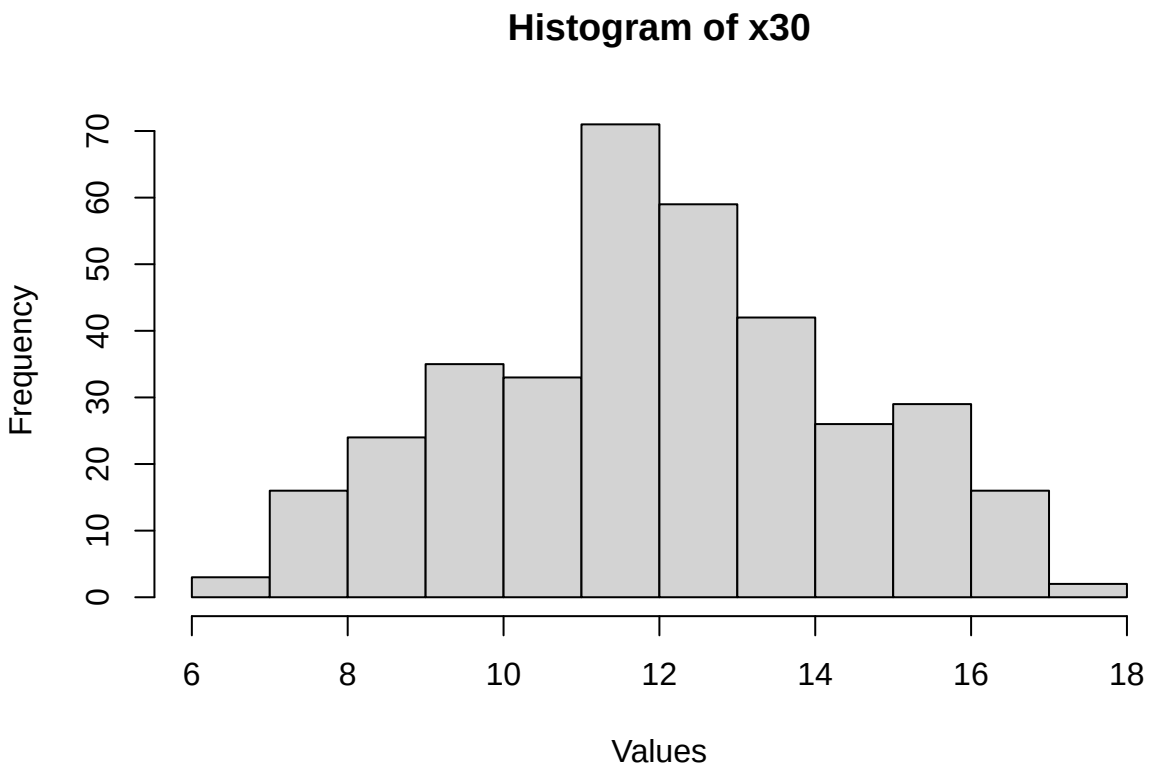

Density plot of x27
Density
0.000
0.005
0.010
0.015
0
20
40
60
80
100
120
N = 357 Bandwidth = 6.136

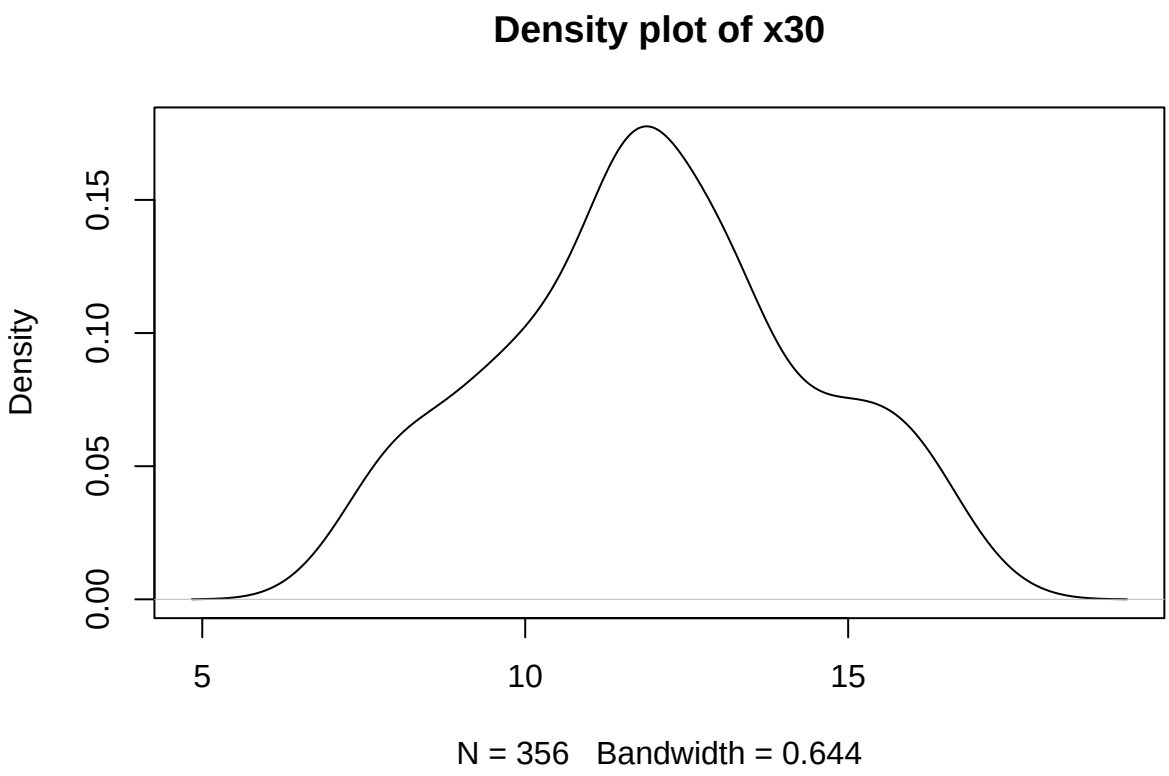

Histogram of x28
Frequency
0
20
40
60
80
120
5
10
15
20
Values


Density plot of x28
Density
0.00
0.04
0.08
0.12
0
5
10
15
20
N = 547 Bandwidth = 0.7367


Histogram of x29
Frequency
0
20
40
60
80
100
0
10
20
30
40
Values


Density plot of x29
Density
0.00
0.02
0.04
0.06
0.08
0
10
20
30
40
N = 300 Bandwidth = 1.454


Histogram of x30
Frequency
0
10
20
30
40
50
60
70
6
8
10
12
14
16
18
Values


Density plot of x30
Density
0.00
0.05
0.10
0.15
5
10
15
N = 356 Bandwidth = 0.644