$N(0, 1^2)$ から標本数 $n = 10$ の標本を 100 回繰り返し抽出し，信頼度 95% の信頼区間を 100 個作成する．

conf.interval

```
> for (i in 1:100){
+ print(conf.interval(rnorm(10,0,1),0.95,1))
+ }
```

```
[1] -0.4103589  0.8292311
[1] -0.2691124  0.9704777
[1] -0.6794240  0.5601661
[1] -1.1243018  0.1152883
[1] -1.14312049  0.09646958
[1] -0.6052396  0.6343504
[1] -0.4836565  0.7559336
[1] -0.6724574  0.5671326
[1] -1.15010483  0.08948523
[1] -0.4561505  0.7834396
[1] -0.3101039  0.9294861
[1] -0.6458842  0.5937059
[1] -0.2816609  0.9579292
[1] -0.5263421  0.7132480
[1] -0.6323301  0.6072600
[1] -0.5140249  0.7255651
[1] -0.6630502  0.5765399
[1] -1.30118369 -0.06159363
[1] -0.7856636  0.4539265
[1] -0.4913147  0.7482753
[1] -0.7176052  0.5219849
[1] -0.7251859  0.5144042
```

<- 母平均を含まない区間

```
[1] -0.4917693  0.7478208
[1] -0.1759157  1.0636743
[1] -0.664813  0.574777
[1] -0.5545437  0.6850463
[1] -0.8383094  0.4012807
[1] -0.5151586  0.7244315
[1] -0.5340719  0.7055181
[1] -0.1319127  1.1076774
[1] -0.9674491  0.2721410
[1] -0.3700513  0.8695388
[1] -0.6378694  0.6017206
[1] -1.17877693  0.06081314
[1] -0.7522586  0.4873315
[1] -0.8342115  0.4053785
[1] -0.7699872  0.4696029
[1] -0.8774342  0.3621558
[1] 0.01801523 1.25760530
[1] -0.4779354  0.7616547
[1] -0.5639029  0.6756872
[1] -1.0979876  0.1416024
[1] -0.2596586  0.9799315
[1] -0.07908651  1.16050355
```

<- 母平均を含まない区間

```
[1] -0.6088526  0.6307374
[1] -0.5938790  0.6457111
[1] -1.1309118  0.1086782
[1] -1.0618950  0.1776950
[1] -0.09044292  1.14914714
[1] -1.22267372  0.01691634
[1] -0.764919  0.474671
[1] -0.1976989  1.0418912
[1] -0.09907568  1.14051439
[1] -0.5158186  0.7237714
[1] -0.740364  0.499226
[1] -0.9535374  0.2860526
[1] -1.0523093  0.1872807
[1] -0.7154613  0.5241288
[1] -0.8744612  0.3651289
[1] -0.4538198  0.7857703
[1] 0.2483399 1.4879300
[1] -0.8235227  0.4160674
[1] -0.2575735  0.9820166
[1] -0.5348435  0.7047466
[1] -1.1125506  0.1270395
[1] -0.8320479  0.4075421
```

<- 母平均を含まない区間

```
[1] -0.1435447  1.0960453
[1] -1.14772481  0.09186526
[1] -0.9584142  0.2811758
[1] -1.0835302  0.1560599
[1] -0.4928898  0.7467002
[1] -0.9616206  0.2779694
[1] -0.8527472  0.3868428
[1] -0.5195266  0.7200635
[1] 0.09238219 1.33197225
[1] -0.4542385  0.7853516
[1] -0.2368548  1.0027353
[1] -0.7633375  0.4762525
[1] -0.3599203  0.8796698
[1] -0.5056557  0.7339343
[1] -0.9296644  0.3099256
[1] -0.9254462  0.3141438
[1] -0.3374106  0.9021794
[1] -0.6379152  0.6016749
[1] -0.7327016  0.5068884
[1] -1.29052943 -0.05093936
[1] -0.4382463  0.8013437
[1] -0.8462166  0.3933735
```

<- 母平均を含まない区間

<- 母平均を含まない区間

```
[1] -0.9631503  0.2764397
[1] -0.4868351  0.7527550
[1] -0.3243519  0.9152382
[1] -0.4026134  0.8369767
[1] -0.4668755  0.7727146
[1] -0.886738  0.352852
[1] -0.8810452  0.3585449
[1] -0.4334746  0.8061154
[1] -0.9771255  0.2624646
[1] -1.32157109 -0.08198103
[1] -0.3524163  0.8871738
[1] -0.9724289  0.2671612
```

<- 母平均を含まない区間

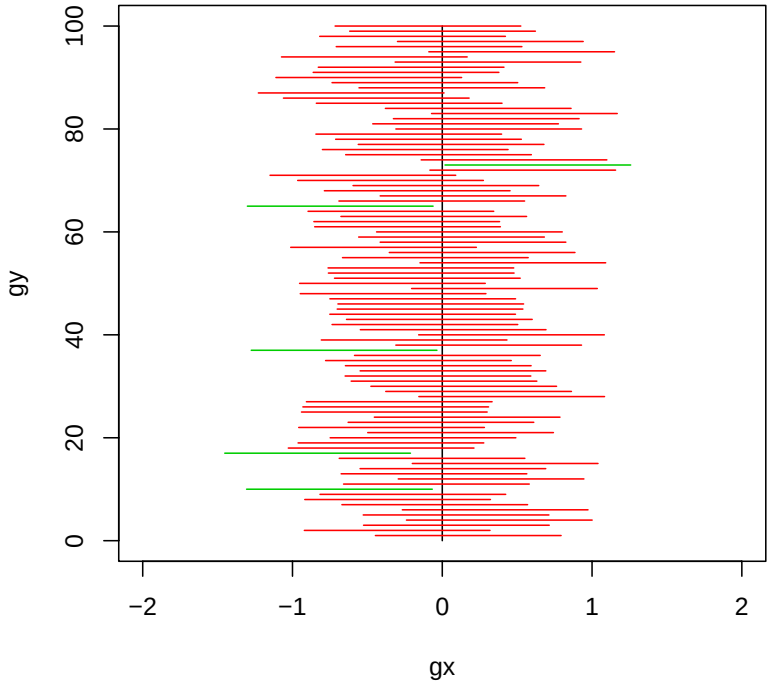

Figure 1: $N(0,\,1)$ から $n = 10$ の標本に基づく信頼係数 95% の信頼区間の 100 個のグラフ

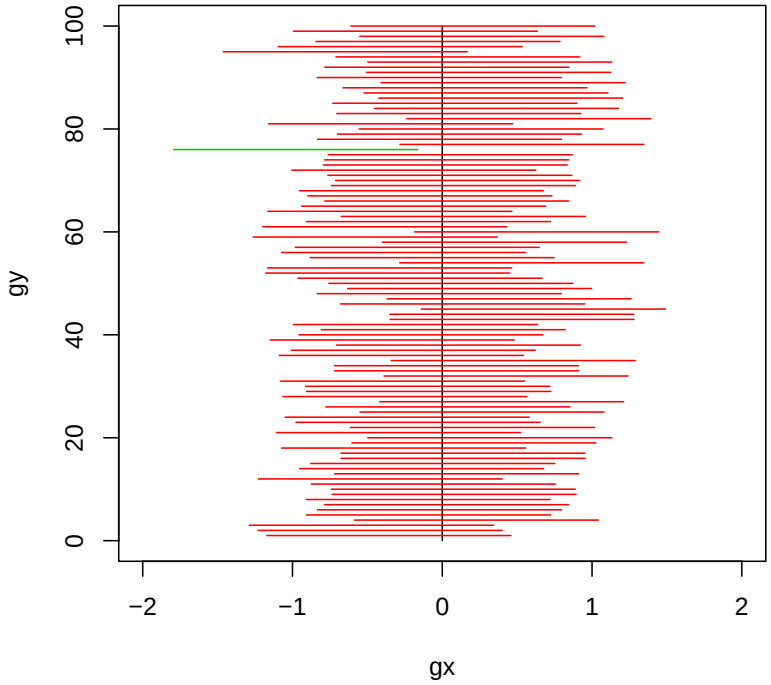

Figure 2: $N(0, 1)$ から $n = 10$ の標本に基づく信頼係数 99% の信頼区間の 100 個のグラフ

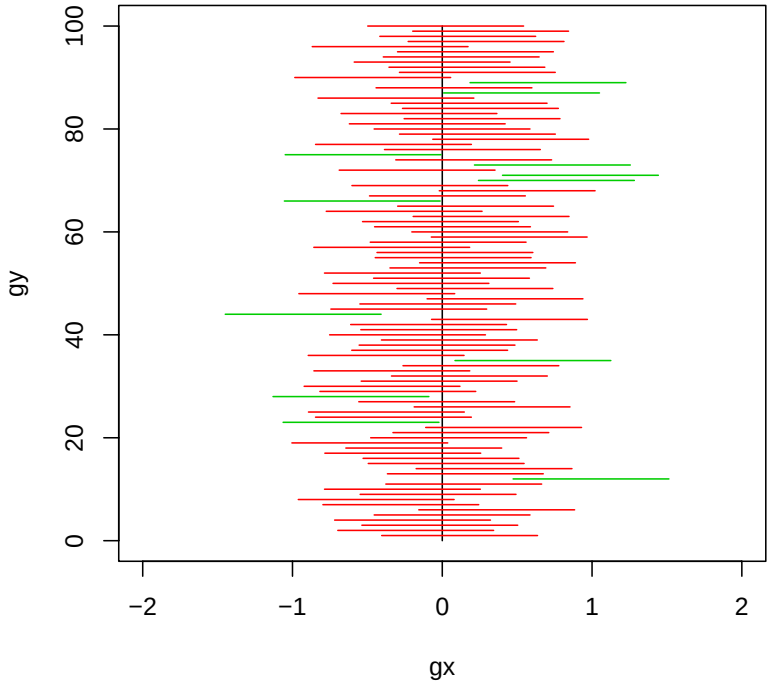

Figure 3: $N(0,\,1)$ から $n = 10$ の標本に基づく信頼係数 80% の信頼区間の 100 個のグラフ

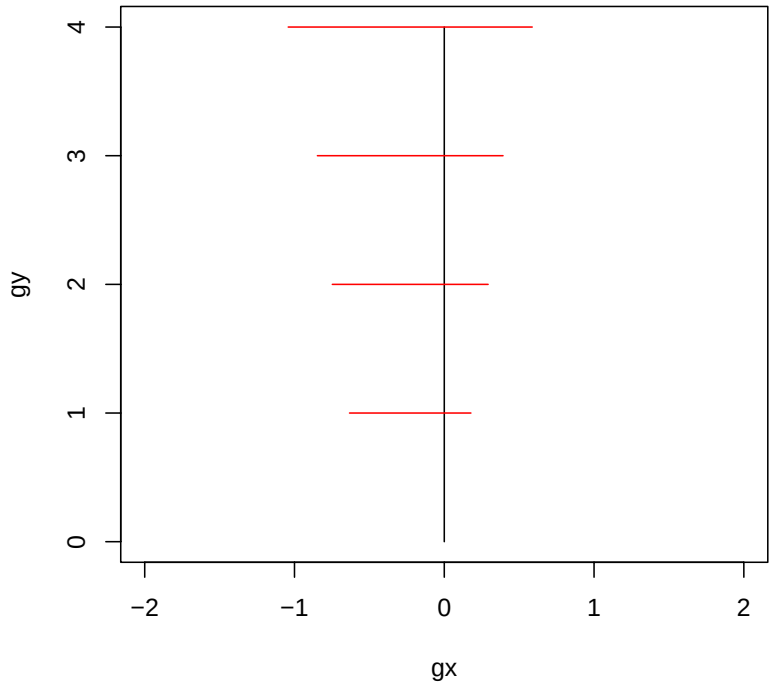

Figure 4: $N(0, 1)$ から $n = 10$ の標本に基づく信頼係数 $99\%, 95\%, 90\%, 80\%$ の信頼区間 (上から順番に) の 100 個のグラフ