Simulation Results for Linear Models (correlated errors)

2022-08-11

Summary

Results for error sd = 3 and corr = 0.5

mod	iprior	lasso	spikeslab	gprior
1000000	0.64	0.20	0.55	0.46
1100000	0.54	0.43	0.11	0.27
1101000	0.48	0.09	0.01	0.09
1110000	0.43	0.52	0.01	0.16
1110100	0.31	0.10	0.00	0.07
1111100	0.27	0.10	0.00	0.00
1111110	0.18	0.13	0.00	0.00
1111111	0.43	0.16	0.00	0.78

Model 1000000

- True value: 1, 0, 0, 0, 0, 0, 0
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 18 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     0     0     0     0     0      0 1000000     1  6383 0.638
##  2     1     1     0     0     0     0      0 1100000     5   985 0.0985
##  3     1     0     1     0     0     0      0 1010000     7   882 0.0882
##  4     1     1     0     1     0     0      0 1101000     4   500 0.05
##  5     1     0     1     0     1     0      0 1010100     6   473 0.0473
##  6     1     1     1     0     0     0      0 1110000    18   120 0.012
##  7     0     0     1     0     0     0      0 0010000     3   100 0.01
##  8     0     1     0     0     0     0      0 0100000     2    87 0.0087
##  9     1     1     1     0     0     1      0 1110010    17    76 0.0076
## 10     1     1     1     1     1     1      1 1111111    10    67 0.0067
## 11     1     1     1     1     0     1      0 1111010    13    62 0.0062
## 12     1     1     1     0     1     0      0 1110100    16    54 0.0054
## 13     1     1     1     1     0     0      0 1111000    15    46 0.0046
## 14     1     1     1     0     1     1      0 1110110    14    45 0.0045
## 15     1     1     1     1     1     1      0 1111110    11    38 0.0038
## 16     1     1     1     1     1     0      0 1111100    12    34 0.0034
## 17     0     1     1     0     0     0      0 0110000     9    31 0.0031
## 18     0     1     1     0     0     1      0 0110010     8    17 0.0017
##
## $lasso
## # A tibble: 56 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     0     0     0     0     0     0      0 0000000    19  7439 0.744
##  2     1     0     0     0     0     0      0 1000000     1  2021 0.202
##  3     1     0     0     0     0     0      1 1000001    NA    98 0.0098
##  4     1     1     0     0     0     0      0 1100000     5    94 0.0094
##  5     1     0     1     0     0     0      0 1010000     7    85 0.0085
##  6     1     0     0     0     1     0      0 1000100    NA    30 0.003
##  7     1     0     0     1     0     0      0 1001000    NA    29 0.0029
##  8     0     0     0     0     0     0      1 0000001    NA    21 0.0021
##  9     0     1     0     0     0     0      0 0100000     2    20 0.002
## 10     0     0     1     0     0     0      0 0010000     3    19 0.0019
## # ... with 46 more rows
## # i Use `print(n = ...)` to see more rows
##
## $spikeslab
## # A tibble: 20 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     0     0     0     0     0      0 1000000     1  5539 0.554
##  2     0     0     0     0     0     0      0 0000000    19  3929 0.393
##  3     0     0     1     0     0     0      0 0010000     3   144 0.0144
##  4     0     1     0     0     0     0      0 0100000     2   142 0.0142
##  5     0     0     0     0     0     0      1 0000001    NA   128 0.0128
##  6     0     0     0     0     1     0      0 0000100    NA    20 0.002
```

```
##  7     0     0     0     1     0     0      0 0001000    NA    16 0.0016
##  8     1     0     0     0     0     1      0 1000010    NA    16 0.0016
##  9     1     0     0     1     0     0      0 1001000    NA    15 0.0015
## 10     1     0     1     0     0     0      0 1010000     7    12 0.0012
## 11     0     0     0     0     0     1      0 0000010    NA    11 0.0011
## 12     1     1     0     0     0     0      0 1100000     5    10 0.001
## 13     1     0     0     0     1     0      0 1000100    NA     8 0.0008
## 14     1     0     0     0     0     0      1 1000001    NA     3 0.0003
## 15     0     1     0     1     0     0      0 0101000    NA     2 0.0002
## 16     0     0     0     0     1     1      0 0000110    NA     1 0.0001
## 17     0     0     0     1     1     0      0 0001100    NA     1 0.0001
## 18     0     0     1     0     0     1      0 0010010    NA     1 0.0001
## 19     0     0     1     1     0     0      0 0011000    NA     1 0.0001
## 20     1     1     1     0     0     0      0 1110000    18     1 0.0001
##
## $gprior
## # A tibble: 13 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     0     0     0     0     0      0 1000000     1  4596 0.460
##  2     1     1     1     1     1     1      1 1111111    10  4445 0.444
##  3     0     0     0     0     0     0      0 0000000    19   525 0.0525
##  4     0     0     0     0     0     0      1 0000001    NA   144 0.0144
##  5     0     1     0     0     0     0      0 0100000     2    98 0.0098
##  6     0     0     1     0     0     0      0 0010000     3    93 0.0093
##  7     1     1     0     0     0     0      0 1100000     5    48 0.0048
##  8     1     0     1     0     0     0      0 1010000     7    25 0.0025
##  9     1     0     0     0     0     0      1 1000001    NA    20 0.002
## 10     1     0     1     0     1     0      0 1010100     6     2 0.0002
## 11     1     1     0     1     0     0      0 1101000     4     2 0.0002
## 12     0     1     1     0     0     0      0 0110000     9     1 0.0001
## 13     1     1     0     0     0     0      1 1100001    NA     1 0.0001
```

Model 1100000

- True value: 1, 1, 0, 0, 0, 0, 0
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 17 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     0     0     0     0      0 1100000     5  5433 0.543
##  2     1     1     0     1     0     0      0 1101000     4  1397 0.140
##  3     1     1     1     0     0     0      0 1110000    18   679 0.0679
##  4     1     0     0     0     0     0      0 1000000     1   510 0.051
##  5     0     1     0     0     0     0      0 0100000     2   486 0.0486
##  6     1     1     1     0     1     0      0 1110100    16   270 0.027
##  7     1     1     1     0     0     1      0 1110010    17   269 0.0269
##  8     1     1     1     1     0     0      0 1111000    15   174 0.0174
##  9     1     1     1     0     1     1      0 1110110    14   132 0.0132
## 10     0     1     1     0     0     0      0 0110000     9   124 0.0124
## 11     1     1     1     1     0     1      0 1111010    13   107 0.0107
## 12     1     0     1     0     0     0      0 1010000     7   101 0.0101
## 13     1     1     1     1     1     0      0 1111100    12    98 0.0098
## 14     1     1     1     1     1     1      1 1111111    10    93 0.0093
## 15     1     0     1     0     1     0      0 1010100     6    51 0.0051
## 16     0     1     1     0     0     1      0 0110010     8    38 0.0038
## 17     1     1     1     1     1     1      0 1111110    11    38 0.0038
##
## $lasso
## # A tibble: 60 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     0     0     0     0      0 1100000     5  4266 0.427
##  2     0     0     0     0     0     0      0 0000000    19  1340 0.134
##  3     1     0     0     0     0     0      0 1000000     1  1216 0.122
##  4     0     1     0     0     0     0      0 0100000     2  1156 0.116
##  5     1     1     0     0     0     0      1 1100001    NA   591 0.0591
##  6     1     1     1     0     0     0      0 1110000    18   469 0.0469
##  7     1     0     0     0     0     0      1 1000001    NA   131 0.0131
##  8     0     1     0     0     0     0      1 0100001    NA   127 0.0127
##  9     1     1     1     0     0     0      1 1110001    NA    95 0.0095
## 10     0     1     1     0     0     0      0 0110000     9    79 0.0079
## # ... with 50 more rows
## # i Use `print(n = ...)` to see more rows
##
## $spikeslab
## # A tibble: 27 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     0     0     0     0     0      0 1000000     1  4222 0.422
##  2     0     1     0     0     0     0      0 0100000     2  4130 0.413
##  3     1     1     0     0     0     0      0 1100000     5  1106 0.111
##  4     0     0     0     0     0     0      1 0000001    NA   158 0.0158
##  5     0     0     0     0     0     0      0 0000000    19   130 0.013
##  6     0     0     1     0     0     0      0 0010000     3   102 0.0102
##  7     0     1     1     0     0     0      0 0110000     9    27 0.0027
```

```
##  8     1     0     1     0     0     0      0 1010000     7    24 0.0024
##  9     1     0     0     1     0     0      0 1001000    NA    21 0.0021
## 10     0     1     0     1     0     0      0 0101000    NA    10 0.001
## # ... with 17 more rows
## # i Use 'print(n = ...)' to see more rows
##
## $gprior
## # A tibble: 21 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     0     0     0     0      0 1100000     5  2696 0.270
##  2     1     1     1     1     1     1      1 1111111    10  2569 0.257
##  3     1     0     0     0     0     0      0 1000000     1  2131 0.213
##  4     0     1     0     0     0     0      0 0100000     2  2014 0.201
##  5     0     0     0     0     0     0      1 0000001    NA    89 0.0089
##  6     0     1     0     0     0     0      1 0100001    NA    84 0.0084
##  7     1     1     0     1     0     0      0 1101000     4    80 0.008
##  8     1     0     0     0     0     0      1 1000001    NA    68 0.0068
##  9     1     0     1     0     0     0      0 1010000     7    65 0.0065
## 10     0     1     1     0     0     0      0 0110000     9    60 0.006
## # ... with 11 more rows
## # i Use 'print(n = ...)' to see more rows
```

Model 1101000

- True value: 1, 1, 0, 0.5, 0, 0, 0
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 17 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     0     1     0     0      0 1101000     4  4824 0.482
##  2     1     1     0     0     0     0      0 1100000     5  2256 0.226
##  3     1     1     1     1     0     0      0 1111000    15   427 0.0427
##  4     1     0     0     0     0     0      0 1000000     1   325 0.0325
##  5     0     1     0     0     0     0      0 0100000     2   318 0.0318
##  6     1     1     1     1     0     1      0 1111010    13   258 0.0258
##  7     1     1     1     1     1     0      0 1111100    12   246 0.0246
##  8     1     1     1     1     1     1      1 1111111    10   242 0.0242
##  9     1     1     1     0     0     0      0 1110000    18   220 0.022
## 10     1     1     1     0     0     1      0 1110010    17   191 0.0191
## 11     1     1     1     0     1     0      0 1110100    16   188 0.0188
## 12     1     1     1     0     1     1      0 1110110    14   128 0.0128
## 13     1     1     1     1     1     1      0 1111110    11   122 0.0122
## 14     0     1     1     0     0     0      0 0110000     9    72 0.0072
## 15     1     0     1     0     1     0      0 1010100     6    62 0.0062
## 16     0     1     1     0     0     1      0 0110010     8    61 0.0061
## 17     1     0     1     0     0     0      0 1010000     7    60 0.006
##
## $lasso
## # A tibble: 98 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     0     0     0     0      0 1100000     5  3052 0.305
##  2     0     0     0     0     0     0      0 0000000    19  1272 0.127
##  3     0     1     0     0     0     0      0 0100000     2   972 0.0972
##  4     1     0     0     0     0     0      0 1000000     1   967 0.0967
##  5     1     1     0     1     0     0      0 1101000     4   852 0.0852
##  6     1     1     0     0     0     0      1 1100001    NA   489 0.0489
##  7     1     1     1     0     0     0      0 1110000    18   311 0.0311
##  8     1     1     0     1     0     0      1 1101001    NA   245 0.0245
##  9     1     1     1     1     0     0      0 1111000    15   148 0.0148
## 10     1     0     0     0     0     0      1 1000001    NA   132 0.0132
## # ... with 88 more rows
## # i Use ‘print(n = ...)‘ to see more rows
##
## $spikeslab
## # A tibble: 42 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     0     1     0     0     0     0      0 0100000     2  3694 0.369
##  2     1     0     0     0     0     0      0 1000000     1  3649 0.365
##  3     1     1     0     0     0     0      0 1100000     5   879 0.0879
##  4     1     0     0     1     0     0      0 1001000    NA   398 0.0398
##  5     0     1     0     1     0     0      0 0101000    NA   366 0.0366
##  6     0     0     0     0     0     0      1 0000001    NA   198 0.0198
##  7     0     0     0     0     0     0      0 0000000    19   171 0.0171
```

```
##  8     1     1     0     1     0     0      0 1101000     4   120 0.012
##  9     0     0     1     0     0     0      0 0010000     3   101 0.0101
## 10     1     0     0     0     0     1      0 1000010    NA    72 0.0072
## # ... with 32 more rows
## # i Use 'print(n = ...)' to see more rows
##
## $gprior
## # A tibble: 23 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  4582 0.458
##  2     1     1     0     0     0     0      0 1100000     5  1418 0.142
##  3     0     1     0     0     0     0      0 0100000     2  1389 0.139
##  4     1     0     0     0     0     0      0 1000000     1  1338 0.134
##  5     1     1     0     1     0     0      0 1101000     4   866 0.0866
##  6     0     0     0     0     0     0      1 0000001    NA    76 0.0076
##  7     0     1     0     0     0     0      1 0100001    NA    71 0.0071
##  8     1     0     0     0     0     0      1 1000001    NA    70 0.007
##  9     0     1     1     0     0     0      0 0110000     9    31 0.0031
## 10     1     1     0     0     0     0      1 1100001    NA    30 0.003
## # ... with 13 more rows
## # i Use 'print(n = ...)' to see more rows
```

Model 1110000

- True value: 1, 1, 1, 0, 0, 0, 0
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 18 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     0     0     0      0 1110000    18  4322 0.432
##  2     1     1     1     0     0     1      0 1110010    17   974 0.0974
##  3     1     1     1     1     0     0      0 1111000    15   973 0.0973
##  4     1     1     1     0     1     0      0 1110100    16   954 0.0954
##  5     0     1     1     0     0     0      0 0110000     9   541 0.0541
##  6     1     1     0     0     0     0      0 1100000     5   515 0.0515
##  7     1     0     1     0     0     0      0 1010000     7   506 0.0506
##  8     1     1     1     1     1     1      1 1111111    10   296 0.0296
##  9     1     1     1     1     1     0      0 1111100    12   220 0.022
## 10     1     1     1     0     1     1      0 1110110    14   210 0.021
## 11     1     1     1     1     0     1      0 1111010    13   198 0.0198
## 12     0     1     1     0     0     1      0 0110010     8    84 0.0084
## 13     1     0     1     0     1     0      0 1010100     6    72 0.0072
## 14     1     1     0     1     0     0      0 1101000     4    68 0.0068
## 15     1     1     1     1     1     1      0 1111110    11    33 0.0033
## 16     0     1     0     0     0     0      0 0100000     2    13 0.0013
## 17     1     0     0     0     0     0      0 1000000     1    13 0.0013
## 18     0     0     1     0     0     0      0 0010000     3     8 0.0008
##
## $lasso
## # A tibble: 59 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     0     0     0      0 1110000    18  5200 0.52
##  2     1     1     1     0     0     0      1 1110001    NA  1400 0.14
##  3     0     1     1     0     0     0      0 0110000     9   645 0.0645
##  4     1     1     0     0     0     0      0 1100000     5   635 0.0635
##  5     1     0     1     0     0     0      0 1010000     7   632 0.0632
##  6     0     1     1     0     0     0      1 0110001    NA   192 0.0192
##  7     1     1     0     0     0     0      1 1100001    NA   188 0.0188
##  8     1     0     1     0     0     0      1 1010001    NA   179 0.0179
##  9     1     1     1     1     0     0      0 1111000    15   103 0.0103
## 10     1     1     1     0     0     1      0 1110010    17   101 0.0101
## # ... with 49 more rows
## # i Use `print(n = ...)` to see more rows
##
## $spikeslab
## # A tibble: 35 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     0     1     0     0     0      0 1010000     7  2251 0.225
##  2     1     1     0     0     0     0      0 1100000     5  2240 0.224
##  3     0     1     1     0     0     0      0 0110000     9  2178 0.218
##  4     0     1     0     0     0     0      0 0100000     2  1015 0.102
##  5     1     0     0     0     0     0      0 1000000     1   943 0.0943
##  6     0     0     1     0     0     0      0 0010000     3   919 0.0919
```

```
##  7     1     1     1     0     0     0      0 1110000    18   124 0.0124
##  8     0     0     1     0     0     0      1 0010001    NA    68 0.0068
##  9     0     0     0     0     0     0      1 0000001    NA    59 0.0059
## 10     0     1     0     0     0     0      1 0100001    NA    56 0.0056
## # ... with 25 more rows
## # i Use 'print(n = ...)' to see more rows
##
## $gprior
## # A tibble: 27 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  2308 0.231
##  2     1     1     1     0     0     0      0 1110000    18  1633 0.163
##  3     1     1     0     0     0     0      0 1100000     5  1612 0.161
##  4     1     0     1     0     0     0      0 1010000     7  1603 0.160
##  5     0     1     1     0     0     0      0 0110000     9  1559 0.156
##  6     0     1     0     0     0     0      0 0100000     2   212 0.0212
##  7     0     0     1     0     0     0      0 0010000     3   208 0.0208
##  8     1     0     0     0     0     0      0 1000000     1   206 0.0206
##  9     1     1     1     0     1     0      0 1110100    16    88 0.0088
## 10     1     1     1     0     0     1      0 1110010    17    76 0.0076
## # ... with 17 more rows
## # i Use 'print(n = ...)' to see more rows
```

Model 1110100

- True value: 1, 1, 1, 0, 0.5, 0, 0
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 18 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     0     1     0      0 1110100    16  3057 0.306
##  2     1     1     1     0     0     0      0 1110000    18  1545 0.154
##  3     1     1     1     0     1     1      0 1110110    14   815 0.0815
##  4     1     1     1     1     1     0      0 1111100    12   778 0.0778
##  5     1     1     1     0     0     1      0 1110010    17   649 0.0649
##  6     1     1     1     1     1     1      1 1111111    10   635 0.0635
##  7     1     1     1     1     0     0      0 1111000    15   606 0.0606
##  8     1     0     1     0     1     0      0 1010100     6   399 0.0399
##  9     0     1     1     0     0     0      0 0110000     9   339 0.0339
## 10     1     1     0     0     0     0      0 1100000     5   334 0.0334
## 11     1     0     1     0     0     0      0 1010000     7   244 0.0244
## 12     1     1     1     1     0     1      0 1111010    13   205 0.0205
## 13     1     1     1     1     1     1      0 1111110    11   173 0.0173
## 14     1     1     0     1     0     0      0 1101000     4    94 0.0094
## 15     0     1     1     0     0     1      0 0110010     8    93 0.0093
## 16     1     0     0     0     0     0      0 1000000     1    13 0.0013
## 17     0     0     1     0     0     0      0 0010000     3    11 0.0011
## 18     0     1     0     0     0     0      0 0100000     2    10 0.001
##
## $lasso
## # A tibble: 67 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     0     0     0      0 1110000    18  3596 0.360
##  2     1     1     1     0     0     0      1 1110001    NA  1095 0.110
##  3     1     1     1     0     1     0      0 1110100    16   981 0.0981
##  4     0     1     1     0     0     0      0 0110000     9   550 0.055
##  5     1     1     0     0     0     0      0 1100000     5   549 0.0549
##  6     1     0     1     0     0     0      0 1010000     7   543 0.0543
##  7     1     1     1     0     1     0      1 1110101    NA   489 0.0489
##  8     0     1     1     0     0     0      1 0110001    NA   173 0.0173
##  9     1     0     1     0     0     0      1 1010001    NA   171 0.0171
## 10     1     1     1     0     0     1      0 1110010    17   168 0.0168
## # ... with 57 more rows
## # i Use `print(n = ...)` to see more rows
##
## $spikeslab
## # A tibble: 51 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     0     1     1     0     0     0      0 0110000     9  1864 0.186
##  2     1     1     0     0     0     0      0 1100000     5  1842 0.184
##  3     1     0     1     0     0     0      0 1010000     7  1831 0.183
##  4     0     1     0     0     0     0      0 0100000     2  1017 0.102
##  5     0     0     1     0     0     0      0 0010000     3   932 0.0932
##  6     1     0     0     0     0     0      0 1000000     1   923 0.0923
```

```
##  7     0     1     1     0     1     0      0 0110100    NA   197 0.0197
##  8     1     1     0     0     1     0      0 1100100    NA   197 0.0197
##  9     1     0     1     0     1     0      0 1010100     6   191 0.0191
## 10     1     1     1     0     0     0      0 1110000    18   106 0.0106
## # ... with 41 more rows
## # i Use 'print(n = ...)' to see more rows
##
## $gprior
## # A tibble: 28 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  4444 0.444
##  2     1     1     0     0     0     0      0 1100000     5   922 0.0922
##  3     0     1     1     0     0     0      0 0110000     9   900 0.09
##  4     1     0     1     0     0     0      0 1010000     7   874 0.0874
##  5     1     1     1     0     0     0      0 1110000    18   695 0.0695
##  6     1     1     1     0     1     0      0 1110100    16   659 0.0659
##  7     1     0     1     0     1     0      0 1010100     6   299 0.0299
##  8     0     1     0     0     0     0      0 0100000     2   180 0.018
##  9     0     0     1     0     0     0      0 0010000     3   166 0.0166
## 10     1     0     0     0     0     0      0 1000000     1   164 0.0164
## # ... with 18 more rows
## # i Use 'print(n = ...)' to see more rows
```

Model 1111100

- True value: 1, 1, 1, 0.5, 0.5, 0, 0
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 18 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     0      0 1111100    12  2686 0.269
##  2     1     1     1     1     0     0      0 1111000    15  1408 0.141
##  3     1     1     1     0     1     0      0 1110100    16  1365 0.136
##  4     1     1     1     1     1     1      1 1111111    10  1318 0.132
##  5     1     1     1     1     1     1      0 1111110    11   660 0.066
##  6     1     1     1     1     0     1      0 1111010    13   592 0.0592
##  7     1     1     1     0     1     1      0 1110110    14   526 0.0526
##  8     1     1     0     1     0     0      0 1101000     4   380 0.038
##  9     1     0     1     0     1     0      0 1010100     6   364 0.0364
## 10     1     1     1     0     0     1      0 1110010    17   197 0.0197
## 11     1     1     1     0     0     0      0 1110000    18   182 0.0182
## 12     0     1     1     0     0     1      0 0110010     8   114 0.0114
## 13     0     1     1     0     0     0      0 0110000     9    82 0.0082
## 14     1     1     0     0     0     0      0 1100000     5    55 0.0055
## 15     1     0     1     0     0     0      0 1010000     7    54 0.0054
## 16     0     0     1     0     0     0      0 0010000     3     7 0.0007
## 17     0     1     0     0     0     0      0 0100000     2     6 0.0006
## 18     1     0     0     0     0     0      0 1000000     1     4 0.0004
##
## $lasso
## # A tibble: 90 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     0     0     0      0 1110000    18  1367 0.137
##  2     1     1     1     1     1     0      0 1111100    12  1017 0.102
##  3     1     1     1     0     1     0      0 1110100    16   998 0.0998
##  4     1     1     1     1     0     0      0 1111000    15   993 0.0993
##  5     1     1     1     1     1     0      1 1111101    NA   506 0.0506
##  6     1     1     1     0     1     0      1 1110101    NA   456 0.0456
##  7     1     1     1     1     0     0      1 1111001    NA   435 0.0435
##  8     1     1     1     0     0     0      1 1110001    NA   418 0.0418
##  9     0     1     1     0     0     0      0 0110000     9   301 0.0301
## 10     1     1     0     0     0     0      0 1100000     5   289 0.0289
## # ... with 80 more rows
## # i Use ‘print(n = ...)‘ to see more rows
##
## $spikeslab
## # A tibble: 58 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     0     1     1     0     0     0      0 0110000     9   943 0.0943
##  2     1     0     1     0     0     0      0 1010000     7   911 0.0911
##  3     1     1     0     0     0     0      0 1100000     5   907 0.0907
##  4     1     0     0     0     0     0      0 1000000     1   686 0.0686
##  5     0     0     1     0     0     0      0 0010000     3   645 0.0645
##  6     0     1     0     0     0     0      0 0100000     2   627 0.0627
```

```
##  7     0     1     1     1     0     0      0 0111000    NA   505 0.0505
##  8     1     0     1     1     0     0      0 1011000    NA   499 0.0499
##  9     1     1     0     0     1     0      0 1100100    NA   492 0.0492
## 10     1     0     1     0     1     0      0 1010100     6   484 0.0484
## # ... with 48 more rows
## # i Use 'print(n = ...)' to see more rows
##
## $gprior
## # A tibble: 31 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  6456 0.646
##  2     1     1     1     1     0     0      0 1111000    15   686 0.0686
##  3     1     1     1     0     1     0      0 1110100    16   628 0.0628
##  4     1     1     0     1     0     0      0 1101000     4   402 0.0402
##  5     1     0     1     0     1     0      0 1010100     6   394 0.0394
##  6     0     1     1     0     0     0      0 0110000     9   259 0.0259
##  7     1     1     0     0     0     0      0 1100000     5   223 0.0223
##  8     1     0     1     0     0     0      0 1010000     7   201 0.0201
##  9     1     1     1     0     0     0      0 1110000    18   134 0.0134
## 10     1     1     1     0     0     1      0 1110010    17   129 0.0129
## # ... with 21 more rows
## # i Use 'print(n = ...)' to see more rows
```

Model 1111110

- True value: 1, 1, 1, 0.5, 0.5, 0.5, 0
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 18 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  1887 0.189
##  2     1     1     1     1     1     1      0 1111110    11  1795 0.180
##  3     1     1     1     0     1     1      0 1110110    14  1459 0.146
##  4     1     1     1     1     0     1      0 1111010    13  1415 0.142
##  5     1     1     1     1     1     0      0 1111100    12  1403 0.140
##  6     1     1     1     0     1     0      0 1110100    16   472 0.0472
##  7     1     1     1     0     0     1      0 1110010    17   458 0.0458
##  8     1     1     1     1     0     0      0 1111000    15   458 0.0458
##  9     1     0     1     0     1     0      0 1010100     6   213 0.0213
## 10     1     1     0     1     0     0      0 1101000     4   203 0.0203
## 11     0     1     1     0     0     1      0 0110010     8   200 0.02
## 12     1     1     1     0     0     0      0 1110000    18    14 0.0014
## 13     1     0     1     0     0     0      0 1010000     7     9 0.0009
## 14     1     1     0     0     0     0      0 1100000     5     7 0.0007
## 15     0     1     1     0     0     0      0 0110000     9     3 0.0003
## 16     0     0     1     0     0     0      0 0010000     3     2 0.0002
## 17     0     1     0     0     0     0      0 0100000     2     1 0.0001
## 18     1     0     0     0     0     0      0 1000000     1     1 0.0001
##
## $lasso
## # A tibble: 108 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      0 1111110    11  1273 0.127
##  2     1     1     1     1     0     1      0 1111010    13   818 0.0818
##  3     1     1     1     1     1     0      0 1111100    12   813 0.0813
##  4     1     1     1     0     1     1      0 1110110    14   777 0.0777
##  5     1     1     1     1     1     1      1 1111111    10   760 0.076
##  6     1     1     1     1     0     1      1 1111011    NA   445 0.0445
##  7     1     1     1     0     1     0      0 1110100    16   444 0.0444
##  8     1     1     1     1     0     0      0 1111000    15   425 0.0425
##  9     1     1     1     0     0     1      0 1110010    17   424 0.0424
## 10     1     1     1     0     1     1      1 1110111    NA   405 0.0405
## # ... with 98 more rows
## # i Use ‘print(n = ...)‘ to see more rows
##
## $spikeslab
## # A tibble: 73 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     0     1     0     0      0 1101000     4   605 0.0605
##  2     0     1     1     0     0     1      0 0110010     8   587 0.0587
##  3     1     0     1     0     1     0      0 1010100     6   583 0.0583
##  4     0     1     1     0     1     0      0 0110100    NA   572 0.0572
##  5     1     1     0     0     0     1      0 1100010    NA   565 0.0565
##  6     0     1     1     1     0     0      0 0111000    NA   550 0.055
```

```
##  7     1     1     0     0     1     0      0 1100100    NA   545 0.0545
##  8     1     0     1     0     0     1      0 1010010    NA   533 0.0533
##  9     1     0     1     1     0     0      0 1011000    NA   508 0.0508
## 10     1     0     0     0     0     1      0 1000010    NA   397 0.0397
## # ... with 63 more rows
## # i Use 'print(n = ...)' to see more rows
##
## $gprior
## # A tibble: 31 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  7966 0.797
##  2     1     1     1     1     0     0      0 1111000    15   314 0.0314
##  3     1     1     1     0     1     0      0 1110100    16   311 0.0311
##  4     1     1     1     0     0     1      0 1110010    17   281 0.0281
##  5     1     0     1     0     1     0      0 1010100     6   242 0.0242
##  6     1     1     0     1     0     0      0 1101000     4   242 0.0242
##  7     0     1     1     0     0     1      0 0110010     8   234 0.0234
##  8     1     1     1     1     0     1      0 1111010    13    68 0.0068
##  9     1     1     1     0     1     1      0 1110110    14    55 0.0055
## 10     1     1     1     1     1     0      0 1111100    12    50 0.005
## # ... with 21 more rows
## # i Use 'print(n = ...)' to see more rows
```

Model 1111111

- True value: 1, 1, 1, 0.5, 0.5, 0.5, 0.25
- nsim = 10000, n = 100, corr = 0.5, err.sd = 3

```
## $iprior
## # A tibble: 17 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  4335 0.434
##  2     1     1     1     0     1     1      0 1110110    14   997 0.0997
##  3     1     1     1     1     0     1      0 1111010    13   995 0.0995
##  4     1     1     1     1     1     0      0 1111100    12   969 0.0969
##  5     1     1     1     1     1     1      0 1111110    11   852 0.0852
##  6     1     1     1     1     0     0      0 1111000    15   460 0.046
##  7     1     1     1     0     1     0      0 1110100    16   450 0.045
##  8     1     1     1     0     0     1      0 1110010    17   443 0.0443
##  9     1     0     1     0     1     0      0 1010100     6   166 0.0166
## 10     0     1     1     0     0     1      0 0110010     8   143 0.0143
## 11     1     1     0     1     0     0      0 1101000     4   137 0.0137
## 12     1     1     1     0     0     0      0 1110000    18    20 0.002
## 13     1     0     1     0     0     0      0 1010000     7    12 0.0012
## 14     0     1     1     0     0     0      0 0110000     9    11 0.0011
## 15     1     1     0     0     0     0      0 1100000     5     8 0.0008
## 16     0     0     1     0     0     0      0 0010000     3     1 0.0001
## 17     1     0     0     0     0     0      0 1000000     1     1 0.0001
##
## $lasso
## # A tibble: 93 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  1574 0.157
##  2     1     1     1     1     1     0      1 1111101    NA   797 0.0797
##  3     1     1     1     0     1     1      1 1110111    NA   777 0.0777
##  4     1     1     1     1     0     1      1 1111011    NA   771 0.0771
##  5     1     1     1     1     1     1      0 1111110    11   553 0.0553
##  6     1     1     1     1     0     1      0 1111010    13   441 0.0441
##  7     1     1     1     1     1     0      0 1111100    12   428 0.0428
##  8     1     1     1     0     1     1      0 1110110    14   413 0.0413
##  9     1     1     1     0     0     0      0 1110000    18   373 0.0373
## 10     1     1     1     1     0     0      0 1111000    15   361 0.0361
## # ... with 83 more rows
## # i Use ‘print(n = ...)‘ to see more rows
##
## $spikeslab
## # A tibble: 83 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     0     1     1     0     0     1      0 0110010     8   675 0.0675
##  2     1     0     1     0     1     0      0 1010100     6   665 0.0665
##  3     1     1     0     1     0     0      0 1101000     4   610 0.061
##  4     0     1     1     0     1     0      0 0110100    NA   605 0.0605
##  5     1     1     0     0     0     1      0 1100010    NA   604 0.0604
##  6     0     1     1     1     0     0      0 0111000    NA   590 0.059
##  7     1     1     0     0     1     0      0 1100100    NA   583 0.0583
```

```
##  8     1     0     1     1     0     0      0 1011000    NA   572 0.0572
##  9     1     0     1     0     0     1      0 1010010    NA   555 0.0555
## 10     1     0     1     0     0     0      0 1010000     7   338 0.0338
## # ... with 73 more rows
## # i Use 'print(n = ...)' to see more rows
##
## $gprior
## # A tibble: 33 x 11
##       x1    x2    x3  x1x2  x1x3  x2x3 x1x2x3 mod        no     n   prop
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <chr>   <int> <int>  <dbl>
##  1     1     1     1     1     1     1      1 1111111    10  7822 0.782
##  2     1     1     1     0     1     0      0 1110100    16   336 0.0336
##  3     1     1     1     1     0     0      0 1111000    15   326 0.0326
##  4     1     1     1     0     0     1      0 1110010    17   325 0.0325
##  5     1     0     1     0     1     0      0 1010100     6   192 0.0192
##  6     0     1     1     0     0     1      0 0110010     8   180 0.018
##  7     1     1     0     1     0     0      0 1101000     4   154 0.0154
##  8     1     1     1     1     0     1      0 1111010    13    82 0.0082
##  9     1     1     1     1     1     0      0 1111100    12    80 0.008
## 10     1     1     1     0     1     1      0 1110110    14    62 0.0062
## # ... with 23 more rows
## # i Use 'print(n = ...)' to see more rows
```