Alpha

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Alpha estimates

Linear

Scenario 1

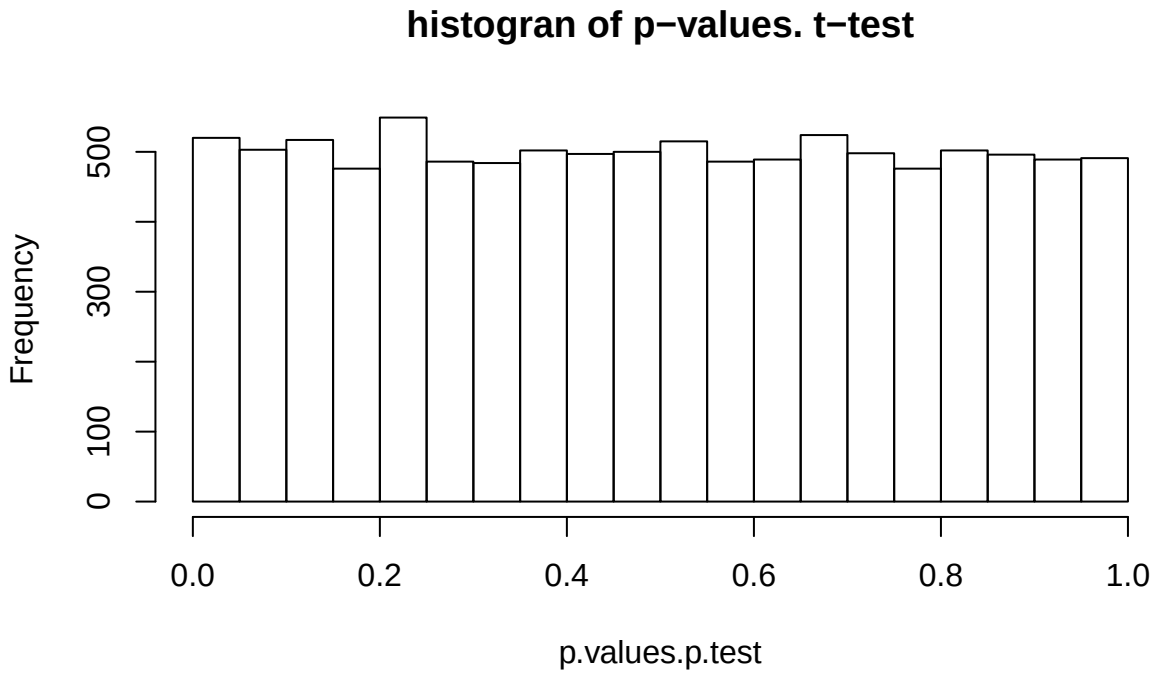
iterations = 10000, n = 2000

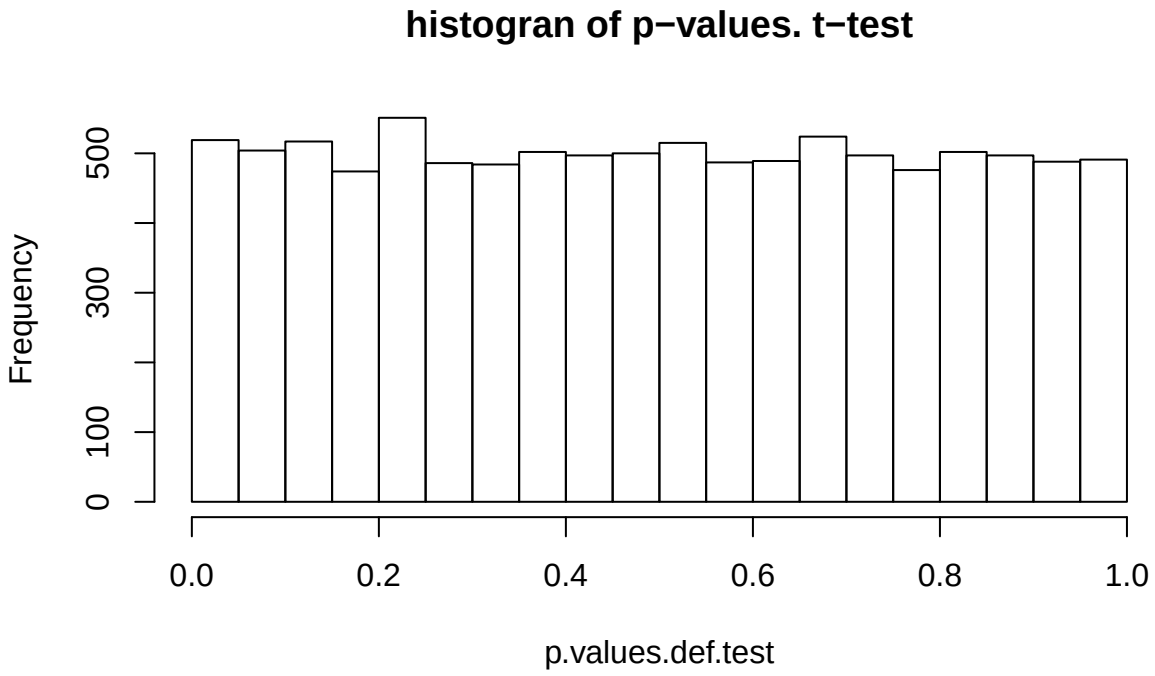
exp.coefs = c(I = -0.4, X = 0.01)

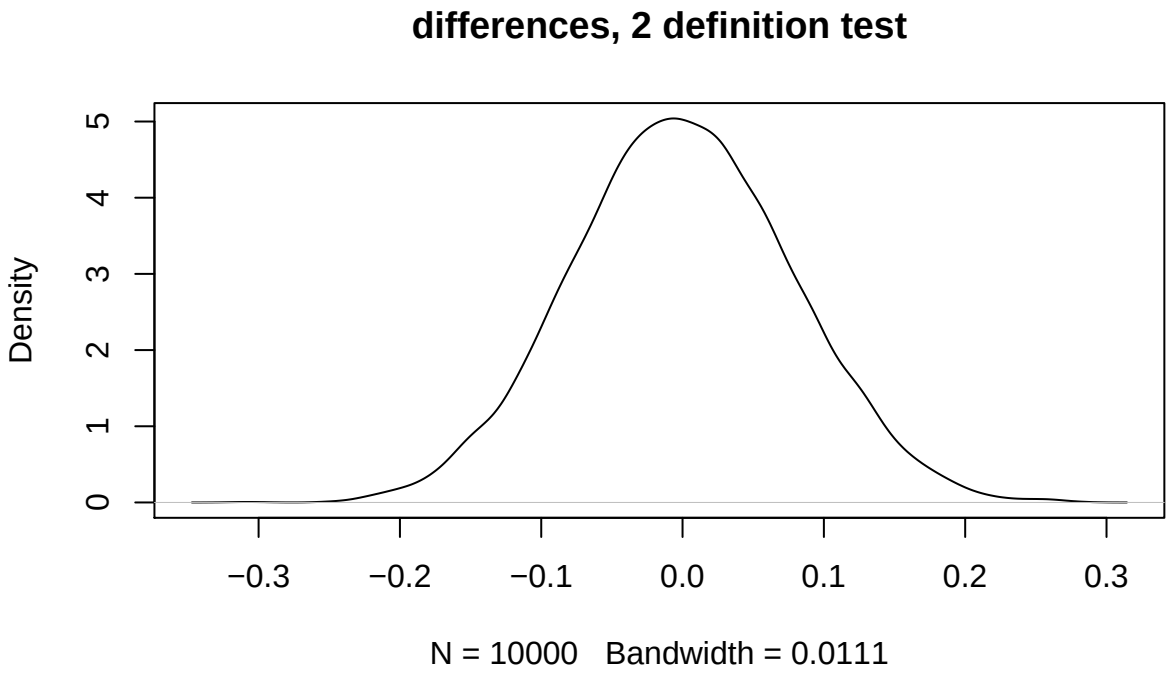
med.coefs = c(I = 3, Z = 2, X = 0.05, ZX = 0)

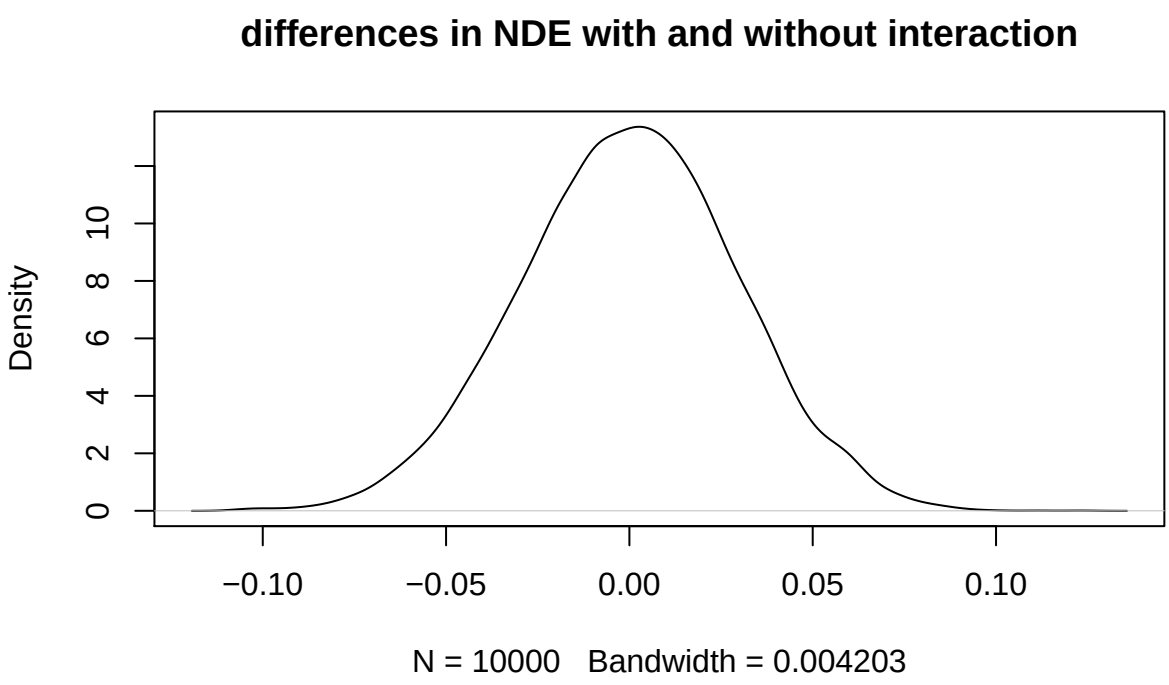
out.coefs = c(I = 5, Z = 1, M = 0.5, ZM = 0, X = 0.05, ZX = 0, MX = 0, ZMX = 0)

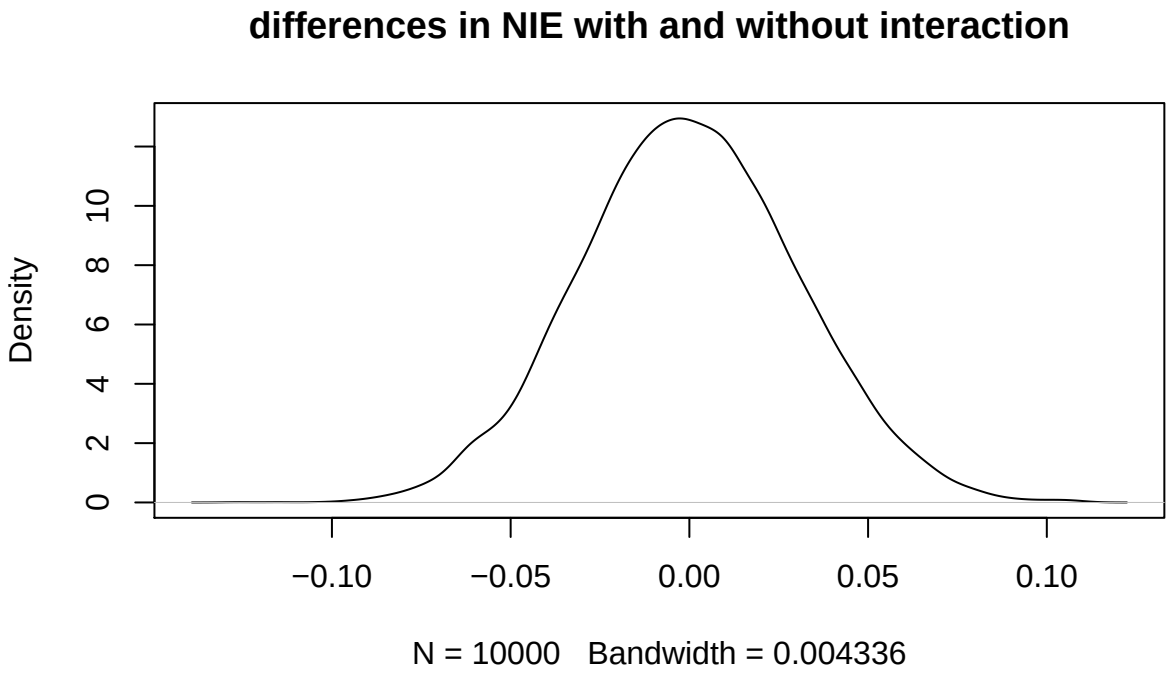
Table: Variables used for simulations




histogran of p−values. t−test
Frequency
0
100
300
500
0.0
0.2
0.4
0.6
0.8
1.0
p.values.def.test


differences, 2 definition test
Density
0
1
2
3
4
5
−0.3
−0.2
−0.1
0.0
0.1
0.2
0.3
N = 10000 Bandwidth = 0.0111






```
##
##  Shapiro-Wilk normality test
##
## data:  diff.def.test[1:5000]
## W = 0.99974, p-value = 0.8321
```

```
##
##  Shapiro-Wilk normality test
##
## data:  diff.NDE.test[1:5000]
## W = 0.99975, p-value = 0.8481

##
##  Shapiro-Wilk normality test
##
## data:  diff.NIE.test[1:5000]
## W = 0.99976, p-value = 0.8611
```

Probit

Scenario 1

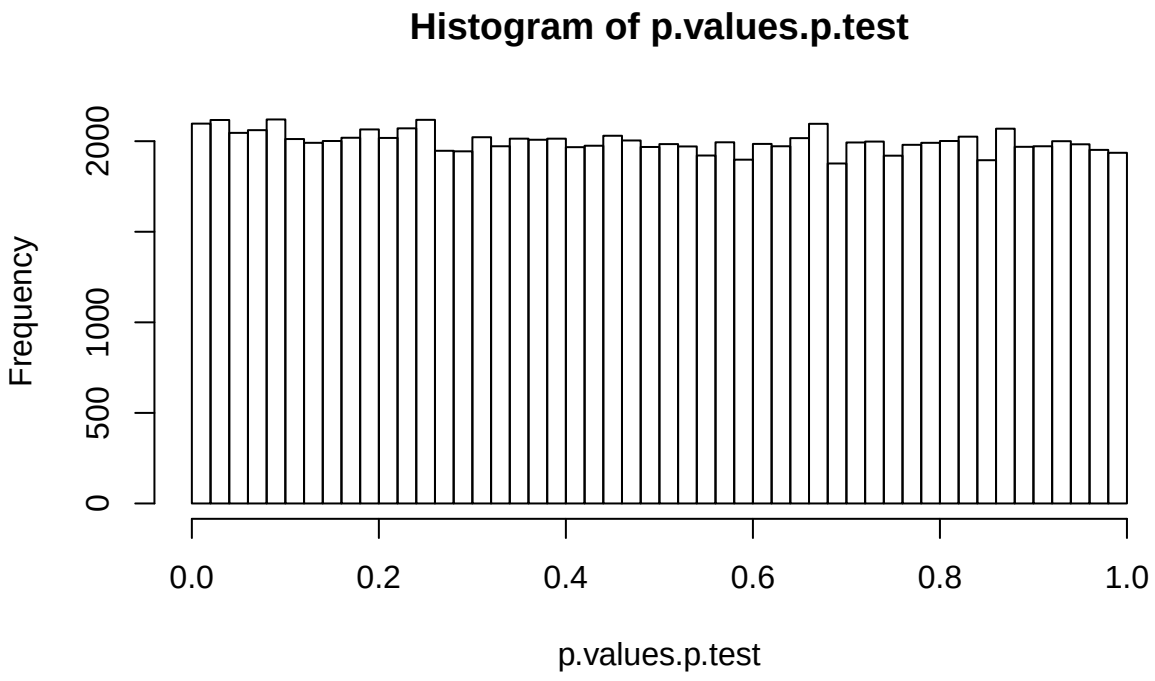
iter = 100000, n = 1000

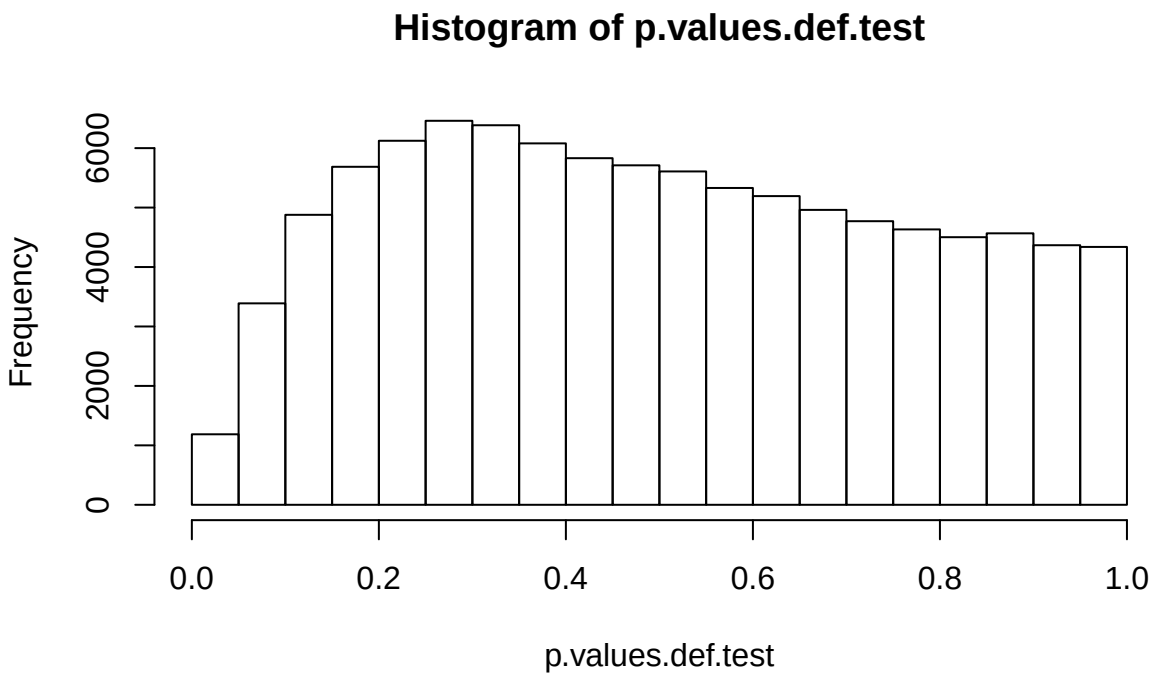
exp.coefs = c(I = -3.416096, X = 0.036231)

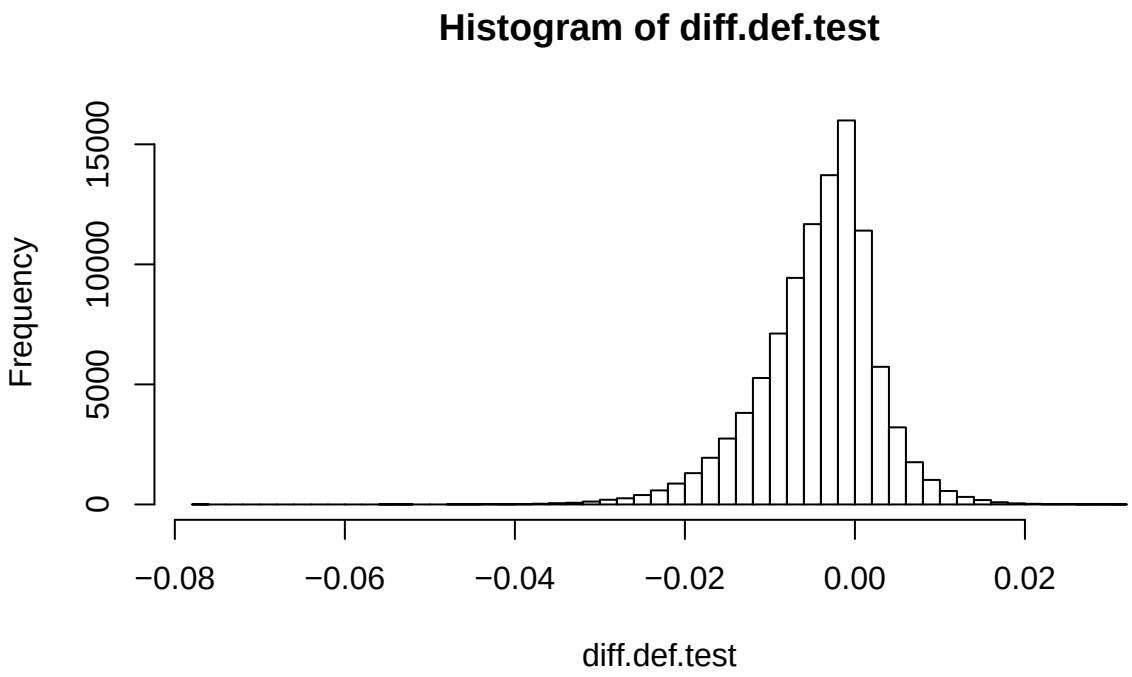
med.coefs = c(I = -1.6507546, Z = 0.2683970, X = 0.0065543, ZX = 0)

out.coefs = c(I = -3.7220626, Z = 0.2763912, M = 1.4729651, ZM = -0.2583784, X = 0.0283196, ZX = 0, MX = 0, ZMX = 0)

X = 104 - rgamma(n = n, shape = 8, scale = 4.5)





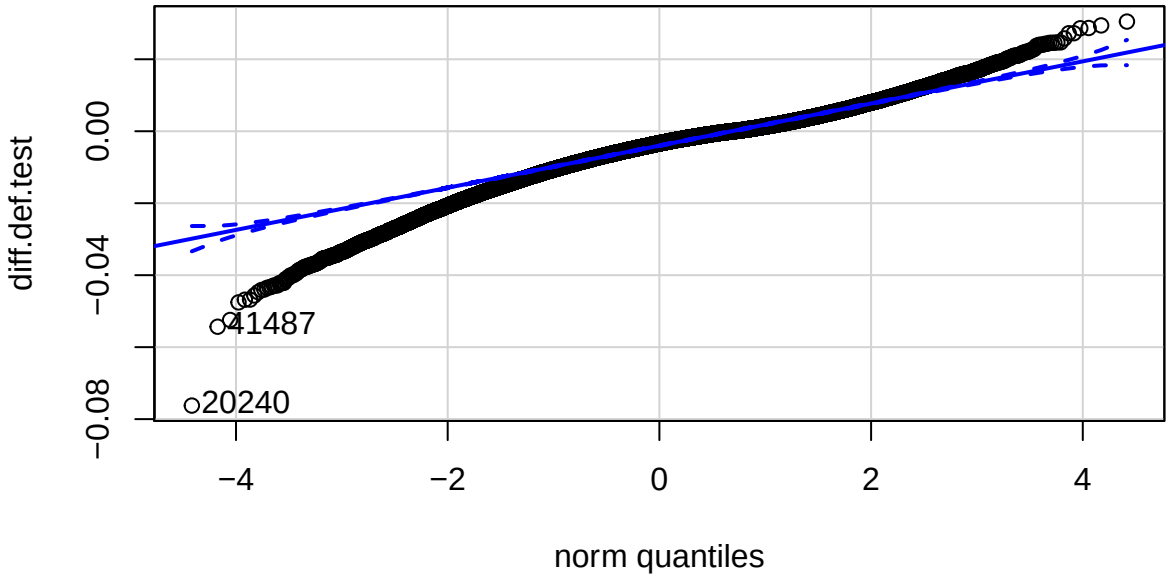



```
## [1] -0.004339278

##
##  Shapiro-Wilk normality test
```

```
##
## data:  diff.def.test[1:5000]
## W = 0.95778, p-value < 2.2e-16
```

```
## Loading required package: carData
```




```
## [1] 20240 41487
```