

# Raport 3

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## Podpunkt a

```
## $`GLM istotne`  
## [1] 1 2 3 4 5 11 39 45 50 55 59 88 98 111 129 143 151  
## [18] 156 176 183 193 220 224 247 250
```

Prawdziwe odkrycia	Fałszywe odkrycia	FDP	Bbetahat	SEbetahat	SEphat
5	20	1	0	3	61

## Podpunkt b

	Bbetahat	SEbetahat	SEphat	T	F	FDP
BIC	-0.001	0.150	6.430	4	0	0
mBIC	0.000	0.135	9.975	3	0	0
mBIC2	0.000	0.135	9.975	3	0	0

## Podpunkt c

```
## [1] 1 2 5 6
```

Bbetahat	SEbetahat	SEphat	T	F	FDP
-0.002	0.181	10.78	3	1	0.25

## Podpunkt d

```
## $est.beta  
## [1] -0.04162548 0.41825396 0.37643834 0.33297938
```

Bbetahat	SEbetahat	SEphat	T	F	FDP
0	0.135	9.975	3	0	0

## Podpunkt e

### Zadanie 2

```
## $`GLM istotne`  
## [1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 17 18  
## [18] 19 20 21 22 23 24 26 27 28 29 31 32 33 34 35 36 37  
## [35] 38 39 40 41 44 45 46 48 49 50 54 57 63 89 92 93 108
```

```
## [52] 128 161 163 168 180 181 189 192 201 202 209 213 217 239 248
## [1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18
## [18] 19 20 21 22 24 26 27 28 29 30 31 32 33 34 35 36 37
## [35] 38 39 40 41 42 45 46 47 49 50 51 52 53 55 64 69 90
## [52] 94 101 109 110 126 127 132 149 164 169 181 190 193 202 203 218 228
## [69] 237 240 248 249

## $est.beta
## [1] -0.046134240 0.455511387 0.396196820 0.309369762 0.061956931
## [6] -0.044648546 -0.139348049 0.052852752 0.018284765 0.057237412
## [11] -0.002001728 0.011217306 -0.062252970 0.070833900 -0.043389638
## [16] 0.007756622 0.018966012 -0.022971739 -0.066713173 0.094286043
## [21] -0.096995632 0.104952482 0.066454584 0.164877755 -0.037502386
## [26] 0.102632710 -0.104526476 -0.020268297 0.018985625 0.046085275
## [31] -0.172200176 -0.045379943
```

	Bbetahat	SEbetahat	SEphat	Prawdziwe odkrycia	Falszywe odkrycia	FDP
GLM	0.042	9.741	51.162	44	22	0.333
BIC	0.000	0.343	14.611	33	0	0.000
mBIC	-0.006	0.370	23.076	5	0	0.000
mBIC2	-0.006	0.482	24.946	14	0	0.000
LASSO	0.004	0.655	19.158	44	28	0.389
SLOPE	-0.001	0.364	17.510	30	1	0.032

### Zadanie 3

```
## $`GLM istotne`
## [1] 1 2 3 4 5 44 45 57 78 88 89 100 102 115 121 145 159
## [18] 165 169 188 193 206 212

## $`GLM istotne`
## numeric(0)

## [1] 1 2 3 4 5 6 108 160 213

## [1] 1 2 8 12 14 15 16 17 18 21 23 26 27 29 30 31 33
## [18] 34 35 36 39 42 45 46 50 51 52 59 62 67 74 75 78 79
## [35] 85 88 112 113 117 120 129 130 134 147 149 150 159 164 169 183 184
## [52] 190 193 198 202 203 206 209 211 212 216 229 239 245 247 250

## $est.beta
## [1] -0.043543776 0.440980680 0.203425381 0.135135169 0.387839784
## [6] 0.339796909 0.042462224 0.066268038 -0.003617411 0.060467561
## [11] -0.039356663 0.033748708 -0.088462460 0.060221596 0.011169083
## [16] -0.032029290 -0.071168599 0.055177013 -0.071896938 -0.017070578
## [21] 0.113842251 0.159284776 0.046501045 0.063470907 -0.116962989
## [26] 0.063103889 -0.112378156

## $est.beta
## [1] -0.0944581096 0.5717669272 0.2840502405 0.1904865164 0.4903355737
## [6] 0.0411172675 -0.0057309888 0.0423212773 -0.0346356701 -0.0885414007
## [11] -0.2022666314 0.0476731891 0.0612511584 0.1885917798 0.0408964552
## [16] -0.0198017075 0.0134316337 0.0256926821 -0.0071914872 -0.1249668594
## [21] 0.0682831378 -0.0256555390 -0.0714837093 0.0307264917 -0.1101727582
## [26] 0.0581230060 0.0002112277 -0.0322327336 -0.0377579970 -0.0900191883
```

```
## [31] -0.0248716403  0.0219547653  0.1589360898  0.0526208678 -0.0832969435
## [36]  0.0752466710 -0.0047307805  0.1167147519  0.2443954780 -0.0315646528
## [41]  0.0840446987  0.1602254339 -0.1200581748  0.0638195905 -0.1762802815
## [46]  0.0553343523  0.0693194927  0.1211491898 -0.2511622952 -0.0118408516
## [51]  0.0348042365  0.0549575526  0.0261119300  0.1839204641  0.1329508976
## [56]  0.0609601020  0.0425911398  0.1502783264  0.0137122700 -0.0073978156
## [61]  0.0965779265 -0.0174298436  0.0460361865  0.0118702789 -0.1394195036
## [66] -0.0770391061 -0.1091717142  0.0099170001 -0.0736833500 -0.0243018086
## [71]  0.0317086668  0.0719923774  0.0709334403 -0.1111310181 -0.0828389441
## [76] -0.1096382212 -0.0252016603 -0.0025843980  0.0015302204 -0.0063255035
## [81] -0.0118272872  0.0860969247  0.2172719874 -0.0150791552 -0.0244706464
## [86]  0.1700396627 -0.0725791830 -0.0216530047 -0.1327447938  0.0013376041
## [91]  0.1602004931 -0.0067100083 -0.1453100163  0.2097723874 -0.0731605426
## [96] -0.0135315278 -0.0399878639 -0.0161447876  0.1307353889 -0.0013707692
## [101] -0.1335477223 -0.0937001502  0.0943682647 -0.0060983373  0.0135308366
## [106] -0.0040143008  0.0188700405 -0.0134721305  0.1587041629  0.1047935556
## [111] -0.1052113587  0.1060380046 -0.0689139377  0.0403734742 -0.129965468
## [116] -0.0798940616 -0.0527877917 -0.0528917019 -0.0900116353  0.2107067977
## [121] -0.0897230641 -0.0839832242  0.0358173555  0.0009152989  0.1096833743
## [126] -0.0492233349 -0.1149077821 -0.0764931577  0.0898587465  0.1513816112
## [131]  0.1337332253 -0.0123814405 -0.0427226589 -0.1101539008 -0.1206738770
## [136]  0.0264255451  0.0757731104 -0.0107565124  0.0044237607 -0.0521369814
## [141] -0.0838672678  0.0017131452 -0.0626303465 -0.0477171250  0.1822260341
## [146] -0.0800329607 -0.0669384781 -0.0635977471  0.0341511907  0.0186193686
## [151]  0.1468321203  0.1220525318  0.0379949392 -0.0696136714 -0.0314014761
## [156]  0.0307390097  0.0437072365 -0.0311172509 -0.1096987107 -0.0724925247
## [161] -0.0877981464  0.0419367799  0.0670775569  0.0445135516 -0.0189370515
## [166]  0.0916300257 -0.1150167135 -0.0001819128  0.0675685897  0.1205578809
## [171] -0.0414437845 -0.0372578742 -0.0138171535 -0.0917789077  0.1580140124
## [176] -0.0174689056  0.0162681641  0.0875987119 -0.0769734768  0.0175504981
## [181] -0.0362298693  0.0999147712  0.0522955220  0.0387417796  0.1030112262
## [186] -0.0661159258  0.0347883213 -0.1976391478 -0.0817511480  0.2227163320
```

	Bbetahat	SEbetahat	SEphat	Prawdziwe odkrycia	Falszywe odkrycia	FDP
GLM a	0.001	4.057	55.265	5	18	0.783
GLM b	0.715	4042.593	45.059	0	0	NaN
BIC a	0.000	0.281	3.520	5	1	0.167
BIC b	-0.001	0.130	10.588	3	0	0.000
mBIC a	-0.002	0.155	7.426	4	0	0.000
mBIC b	0.000	0.429	10.959	28	6	0.176
mBIC2 a	0.001	0.352	6.971	19	2	0.095
mBIC2 b	0.000	0.422	10.035	26	4	0.133
LASSO a	0.001	0.304	4.492	5	4	0.444
LASSO b	0.001	0.696	33.256	26	41	0.612
SLOPE a	0.001	0.401	8.691	5	21	0.808
SLOPE b	0.004	1.801	47.942	48	141	0.746

## Zadanie 4

### Podpunkt a

```
## [1] 0.93971588 2.52356039 3.24575661 4.65113735 2.32471062
## [6] 0.96275373 1.30208899 0.09618854 0.25102749 -1.26180709
```

```
## [11] -0.18236866  1.55241634 -2.07508761 -0.99222635 -0.73365154
## [16] -1.23101464 -1.62570116  2.03149350 -1.13819413 -0.11460513
## [21]  1.39995898  0.33942223 -0.51251129  1.69301847 -2.63896419

## [1]  0.018244930  0.065178088  0.056688792  0.122047590  0.084265967
## [6]  0.000000000  0.000000000  0.000000000  0.000000000  0.000000000
## [11]  0.000000000  0.000000000 -0.035086184 -0.062148894  0.000000000
## [16]  0.000000000  0.000000000  0.000000000 -0.047139725  0.000000000
## [21]  0.000000000  0.000000000  0.000000000  0.000000000 -0.008034029
```

## Podpunkt b

	Bbetahat	SEbetahat	SEphat	Prawdziwe odkrycia	Fałszywe odkrycia	FDP
GLM	0.025	58.562	7.869	4	3	0.429
cv.glmnet	0.000	0.297	4.842	5	4	0.444

## Podpunkt c

### Zadanie 5

## Podpunkt a

## Podpunkt b

## Podpunkt c