## Summary of Parameters

| Parameter | Value |
| --- | --- |
| included variable | NULL |
| strategy | bidirection |
| metric | AIC & BIC |
| tolerance of multicollinearity | 1e-07 |
| multicollinearity variable | yes |
| intercept | 0 |

## Type of Variables

| Variable type | Variable name | Variable class |
| --- | --- | --- |
| Dependent | mpg | numeric |
| Independent | cyl | numeric |
| Independent | disp | numeric |
| Independent | hp | numeric |
| Independent | drat | numeric |
| Independent | wt | numeric |
| Independent | qsec | numeric |
| Independent | vs | numeric |
| Independent | am | numeric |
| Independent | gear | numeric |
| Independent | carb | numeric |
| Independent | yes | numeric |

## Selection Process under AIC

| Step | EnteredEffect | RemovedEffect | NumberEffectIn | NumberParmsIn | AIC |
| --- | --- | --- | --- | --- | --- |
| 0 | 0 |  | 0 | 0 | Inf |
| 1 | drat |  | 1 | 1 | 131.940615397799 |
| 2 | carb |  | 2 | 2 | 112.874977003721 |
| 3 | gear |  | 3 | 3 | 105.767914676203 |
| 4 | hp |  | 4 | 4 | 105.399654906399 |
| 5 | qsec |  | 5 | 5 | 105.277861812131 |
| 6 | wt |  | 6 | 6 | 100.437613232709 |
| 7 |  | hp | 5 | 5 | 98.4440186423183 |
| 8 | am |  | 6 | 6 | 97.8009315992234 |
| 9 |  | gear | 5 | 5 | 96.5751826224886 |
| 10 |  | carb | 4 | 4 | 96.0485980614551 |
| 11 |  | drat | 3 | 3 | 95.418690850739 |
| 12 | disp |  | 4 | 4 | 95.3954043177414 |

## Selection Process under BIC

| Step | EnteredEffect | RemovedEffect | NumberEffectIn | NumberParmsIn | BIC |
| --- | --- | --- | --- | --- | --- |
| 0 | 0 |  | 0 | 0 | Inf |
| 1 | drat |  | 1 | 1 | 97.7553842586695 |
| 2 | carb |  | 2 | 2 | 79.2794817092699 |
| 3 | gear |  | 3 | 3 | 72.9946131788242 |
| 4 | hp |  | 4 | 4 | 72.9415244192211 |

## Parameter Estimates for mpg under AIC

| Variable | Estimate | Std. Error | t value | Pr(>|t|) |
| --- | --- | --- | --- | --- |
| qsec | 1.70550996 | 0.127485705 | 13.378049 | 0.0000000000001099649 |
| wt | -4.61279456 | 1.158173236 | -3.982819 | 0.0004400086287643590 |
| am | 4.18085430 | 1.013616073 | 4.124692 | 0.0003005272335925347 |
| disp | 0.01202006 | 0.008891454 | 1.351866 | 0.1872382589621617299 |

## Parameter Estimates for mpg under BIC

| Variable | Estimate | Std. Error | t value | Pr(>|t|) |
| --- | --- | --- | --- | --- |
| drat | 4.30273288 | 1.09158281 | 3.941737 | 0.0004911507 |
| carb | -1.73804836 | 0.54597600 | -3.183379 | 0.0035512756 |
| gear | 3.17367475 | 1.12779617 | 2.814050 | 0.0088501491 |
| hp | -0.01554796 | 0.01060156 | -1.466573 | 0.1536346019 |