testing performance package

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`Performance` package

https://easystats.github.io/performance/

```
knitr::opts_chunk$set(echo = TRUE)

library(performance)

mtcars <- mtcars
```

Use some mtcars data

```
summary(mtcars)
```

```
##       mpg             cyl             disp             hp       
##  Min.   :10.40   Min.   :4.000   Min.   : 71.1   Min.   : 52.0  
##  1st Qu.:15.43   1st Qu.:4.000   1st Qu.:120.8   1st Qu.: 96.5  
##  Median :19.20   Median :6.000   Median :196.3   Median :123.0  
##  Mean   :20.09   Mean   :6.188   Mean   :230.7   Mean   :146.7  
##  3rd Qu.:22.80   3rd Qu.:8.000   3rd Qu.:326.0   3rd Qu.:180.0  
##  Max.   :33.90   Max.   :8.000   Max.   :472.0   Max.   :335.0  
##       drat             wt             qsec             vs        
##  Min.   :2.760   Min.   :1.513   Min.   :14.50   Min.   :0.0000  
##  1st Qu.:3.080   1st Qu.:2.581   1st Qu.:16.89   1st Qu.:0.0000  
##  Median :3.695   Median :3.325   Median :17.71   Median :0.0000  
##  Mean   :3.597   Mean   :3.217   Mean   :17.85   Mean   :0.4375  
##  3rd Qu.:3.920   3rd Qu.:3.610   3rd Qu.:18.90   3rd Qu.:1.0000  
##  Max.   :4.930   Max.   :5.424   Max.   :22.90   Max.   :1.0000  
##        am              gear            carb      
##  Min.   :0.0000   Min.   :3.000   Min.   :1.000  
##  1st Qu.:0.0000   1st Qu.:3.000   1st Qu.:2.000  
##  Median :0.0000   Median :4.000   Median :2.000  
##  Mean   :0.4062   Mean   :3.688   Mean   :2.812  
##  3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:4.000  
##  Max.   :1.0000   Max.   :5.000   Max.   :8.000
```

Make a model, any model

For example:

```r
qsecModel <- lm(formula = qsec ~ carb + disp, data = mtcars)

qsecModel
```

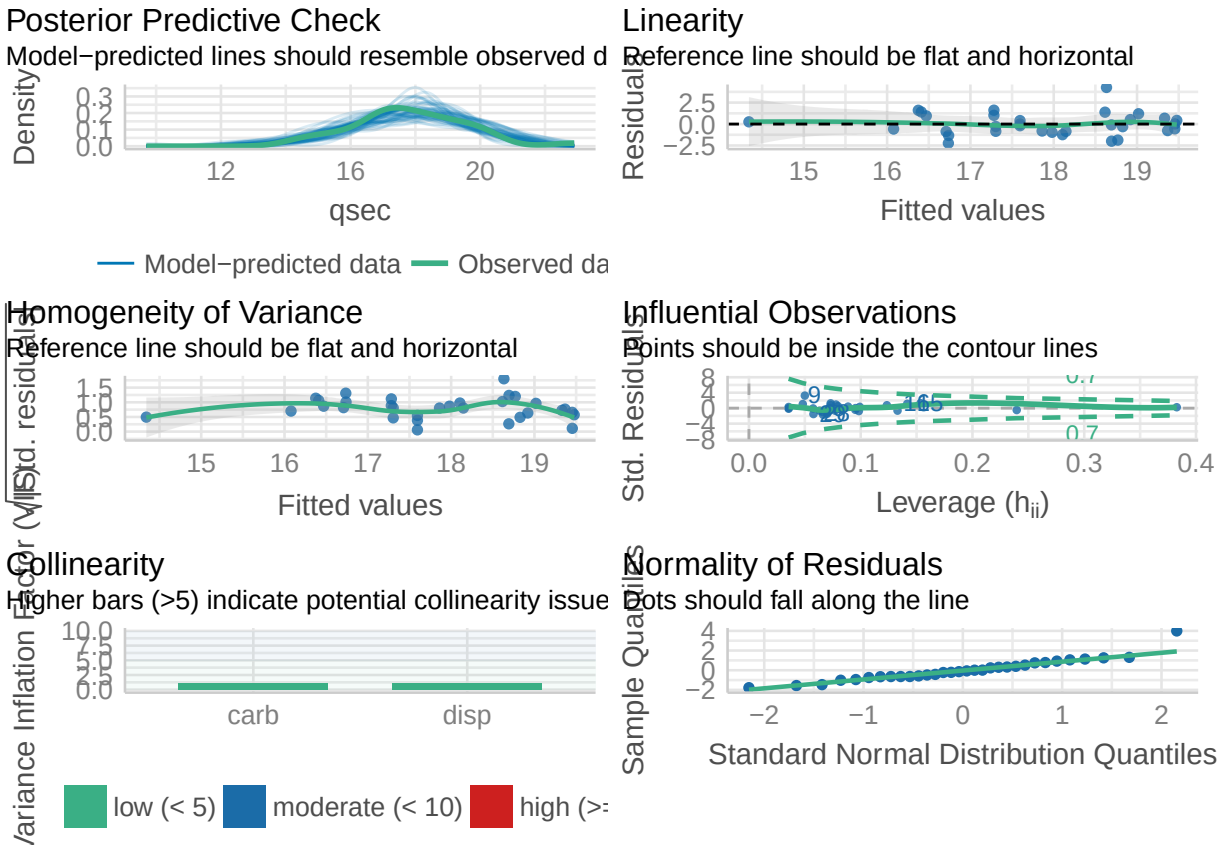
```
##
## Call:
## lm(formula = qsec ~ carb + disp, data = mtcars)
##
## Coefficients:
## (Intercept)         carb         disp
##   20.324369    -0.635684    -0.002981
```

```r
summary(qsecModel)
```

```
##
## Call:
## lm(formula = qsec ~ carb + disp, data = mtcars)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -2.2353 -0.8452 -0.1437  0.7470  4.2667
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 20.324369   0.575126  35.339  < 2e-16 ***
## carb        -0.635684   0.163300  -3.893 0.000535 ***
## disp        -0.002981   0.002128  -1.401 0.171917
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.349 on 29 degrees of freedom
## Multiple R-squared:  0.4667, Adjusted R-squared:   0.43
## F-statistic: 12.69 on 2 and 29 DF,  p-value: 0.0001098
```

Check model performance

```r
performance::check_model(qsecModel)
```


Posterior Predictive Check
Model−predicted lines should resemble observed d
Density
qsec
Model−predicted data
Observed da
Linearity
Reference line should be flat and horizontal
Residuals
Fitted values
Homogeneity of Variance
Reference line should be flat and horizontal
Fitted values
Influential Observations
Points should be inside the contour lines
Std. Residuals
Leverage (h_{ii})
Collinearity
Higher bars (>5) indicate potential collinearity issue
carb
disp
low (< 5)
moderate (< 10)
high (>
Normality of Residuals
Dots should fall along the line
Sample Quantiles
Standard Normal Distribution Quantiles

Nice. . .

The end