kable

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library(tidyverse)  
library(AER)  
library(knitr)  
library(broom)  
library(stringr)  
library(xtable)

# 基本

分析を実行する.

fm <- lm(dist ~ speed, data= cars)  
summary(fm)

##   
## Call:  
## lm(formula = dist ~ speed, data = cars)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -29.069 -9.525 -2.272 9.215 43.201   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -17.5791 6.7584 -2.601 0.0123 \*   
## speed 3.9324 0.4155 9.464 1.49e-12 \*\*\*  
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 15.38 on 48 degrees of freedom  
## Multiple R-squared: 0.6511, Adjusted R-squared: 0.6438   
## F-statistic: 89.57 on 1 and 48 DF, p-value: 1.49e-12

ロバスト分散の結果を示す.

hc <- vcovHC(fm, type="HC1")  
coeftest(fm, vcov=hc)

##   
## t test of coefficients:  
##   
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -17.5791 5.6562 -3.1080 0.003163 \*\*   
## speed 3.9324 0.4069 9.6643 7.654e-13 \*\*\*  
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

ロバスト分散でない結果をまとめると以下になる.

fm %>% tidy() %>% kable()

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| term | estimate | std.error | statistic | p.value |
| (Intercept) | -17.579095 | 6.7584402 | -2.601058 | 0.0123188 |
| speed | 3.932409 | 0.4155128 | 9.463990 | 0.0000000 |

ロバスト分散の結果をまとめると以下になる.

tab1 <- fm %>% coeftest(vcov=hc) %>% tidy()  
kable(tab1)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| term | estimate | std.error | statistic | p.value |
| (Intercept) | -17.579095 | 5.656150 | -3.107961 | 0.0031627 |
| speed | 3.932409 | 0.406902 | 9.664266 | 0.0000000 |

## 日本語変換

データフレーム形式の名前の変換なら次のようにしてもよい. つぎのようにしてもよい.

tab1["term"] <- c("定数項","速度")  
tab1 %>% kable()

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| term | estimate | std.error | statistic | p.value |
| 定数項 | -17.579095 | 5.656150 | -3.107961 | 0.0031627 |
| 速度 | 3.932409 | 0.406902 | 9.664266 | 0.0000000 |

## その他の修飾

数字の一部を太字するには次のようにする.

# https://stackoverflow.com/questions/2853393/using-gsub-to-modify-output-of-xtable-command  
tab2 <- capture.output(kable(tab1)) %>%  
 str\_replace("3.932409","\*\*3.932409\*\*")  
tab2 %>% kable()

## Warning in kable\_markdown(x = structure(c("", "", "term estimate std.error  
## statistic p.value", : The table should have a header (column names)

|  |
| --- |
|  |
|  |
| term estimate std.error statistic p.value |
| ------- ----------- ---------- ---------- ---------- |
| 定数項 -17.579095 5.656150 -3.107961 0.0031627 |
| 速度 **3.932409** 0.406902 9.664266 0.0000000 |