Teste F-Fisher - Checkstyle

Audrey

2023-01-14

Lendo lm_smells

```
lm_smells <- read.csv(file = 'C:\\Users\\audre\\Desktop\\tcc\\checkstyle\\lm_checkstyle.csv')
```

Lendo lem_smells

```
lmfe_smells <- read.csv(file = 'C:\\Users\\audre\\Desktop\\tcc\\checkstyle\\lem_checkstyle.csv')
```

Teste F-Fisher

```
var.test(lm_smells$metrics.MethodEffectiveLinesOfCode, lmfe_smells$metrics.MethodEffectiveLinesOfCode, a
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.MethodEffectiveLinesOfCode and lmfe_smells$metrics.MethodEffectiveLinesOfCo
## F = 8.655, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  7.688808 9.705995
## sample estimates:
## ratio of variances
##           8.655038
```

```
var.test(lm_smells$metrics.NumberOfFinallyStatements, lmfe_smells$metrics.NumberOfFinallyStatements, al
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.NumberOfFinallyStatements and lmfe_smells$metrics.NumberOfFinallyStatements
## F = 69.87, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  62.07013 78.35445
## sample estimates:
## ratio of variances
##            69.8703
```

```
var.test(lm_smells$metrics.NumberOfCatchStatements, lmfe_smells$metrics.NumberOfCatchStatements, alterna
```

```
##
##  F test to compare two variances
##
```

```
## data:  lm_smells$metrics.NumberOfCatchStatements and lmfe_smells$metrics.NumberOfCatchStatements
## F = 10.707, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##   9.511596 12.006997
## sample estimates:
## ratio of variances
##           10.70689
```

```
var.test(lm_smells$metrics.ExceptionalLOC, lmfe_smells$metrics.ExceptionalLOC, alternative = "two.sided
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.ExceptionalLOC and lmfe_smells$metrics.ExceptionalLOC
## F = 83.013, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  73.74532 93.09267
## sample estimates:
## ratio of variances
##           83.01268
```

```
#var.test(lm_smells$metrics.NumberOfDummyExc#eptionHandlers, #lmfe_smells$metrics.NumberOfDummyExceptio
```

```
var.test(lm_smells$metrics.NumberOfTryStatements, lmfe_smells$metrics.NumberOfTryStatements, alternativ
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.NumberOfTryStatements and lmfe_smells$metrics.NumberOfTryStatements
## F = 19.056, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  16.92861 21.36989
## sample estimates:
## ratio of variances
##           19.05598
```

```
var.test(lm_smells$metrics.NumberOfThrowStatements, lmfe_smells$metrics.NumberOfThrowStatements, alterna
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.NumberOfThrowStatements and lmfe_smells$metrics.NumberOfThrowStatements
## F = 1.5557, num df = 2513, denom df = 732, p-value = 1.069e-12
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  1.382058 1.744645
## sample estimates:
## ratio of variances
##           1.555737
```

```
var.test(lm_smells$metrics.NumberOfTryStatementsWithNoCatchAndFinally, lmfe_smells$metrics.NumberOfTryS
```

```
##
##  F test to compare two variances
```

```
##
## data:  lm_smells$metrics.NumberOfTryStatementsWithNoCatchAndFinally and lmfe_smells$metrics.NumberOf
## F = 4.9097, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  4.361632 5.505921
## sample estimates:
## ratio of variances
##           4.909745
```

```
var.test(lm_smells$metrics.ThrownExceptionTypesCount, lmfe_smells$metrics.ThrownExceptionTypesCount, al
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.ThrownExceptionTypesCount and lmfe_smells$metrics.ThrownExceptionTypesCount
## F = 0.37541, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.3334972 0.4209913
## sample estimates:
## ratio of variances
##          0.3754068
```

```
var.test(lm_smells$metrics.changingClasses, lmfe_smells$metrics.changingClasses, alternative = "two.sid
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.changingClasses and lmfe_smells$metrics.changingClasses
## F = 0.61933, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.5501903 0.6945346
## sample estimates:
## ratio of variances
##           0.619331
```

```
var.test(lm_smells$metrics.changingMethods, lmfe_smells$metrics.changingMethods, alternative = "two.sid
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.changingMethods and lmfe_smells$metrics.changingMethods
## F = 6.3322, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  5.625260 7.101067
## sample estimates:
## ratio of variances
##           6.332169
```

```
var.test(lm_smells$metrics.couplingDispersion, lmfe_smells$metrics.couplingDispersion, alternative = "t
```

```
##
##  F test to compare two variances
##
```

```
## data:  lm_smells$metrics.couplingDispersion and lmfe_smells$metrics.couplingDispersion
## F = 4.0518, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  3.599427 4.543749
## sample estimates:
## ratio of variances
##           4.051756
```

```
var.test(lm_smells$metrics.couplingIntensity, lmfe_smells$metrics.couplingIntensity, alternative = "two
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.couplingIntensity and lmfe_smells$metrics.couplingIntensity
## F = 1.1864, num df = 2513, denom df = 732, p-value = 0.004785
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  1.053979 1.330495
## sample estimates:
## ratio of variances
##            1.18643
```

```
var.test(lm_smells$metrics.cyclomaticComplexity, lmfe_smells$metrics.cyclomaticComplexity, alternative =
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.cyclomaticComplexity and lmfe_smells$metrics.cyclomaticComplexity
## F = 6.3742, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  5.662575 7.148172
## sample estimates:
## ratio of variances
##           6.374174
```

```
var.test(lm_smells$metrics.maxCallChain, lmfe_smells$metrics.maxCallChain, alternative = "two.sided")
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.maxCallChain and lmfe_smells$metrics.maxCallChain
## F = 0.77474, num df = 2513, denom df = 732, p-value = 1.057e-05
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.6882484 0.8688128
## sample estimates:
## ratio of variances
##          0.7747385
```

```
var.test(lm_smells$metrics.maxNesting, lmfe_smells$metrics.maxNesting, alternative = "two.sided")
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.maxNesting and lmfe_smells$metrics.maxNesting
```

```
## F = 0.61314, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.5446860 0.6875863
## sample estimates:
## ratio of variances
##          0.6131351
```

```
var.test(lm_smells$metrics.numberOfAccessedVariables, lmfe_smells$metrics.numberOfAccessedVariables, al
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.numberOfAccessedVariables and lmfe_smells$metrics.numberOfAccessedVariables
## F = 38.176, num df = 2513, denom df = 732, p-value < 2.2e-16
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  33.91413 42.81162
## sample estimates:
## ratio of variances
##           38.17602
```

```
var.test(lm_smells$metrics.parameterCount, lmfe_smells$metrics.parameterCount, alternative = "two.sided
```

```
##
##  F test to compare two variances
##
## data:  lm_smells$metrics.parameterCount and lmfe_smells$metrics.parameterCount
## F = 0.95986, num df = 2513, denom df = 732, p-value = 0.482
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.8527044 1.0764144
## sample estimates:
## ratio of variances
##          0.9598612
```