# Usage of More Constructs

## Data set

> modeData

 Default Complete Mixed

akka.net 0.124 0.099 0.106

AutoMapper 0.132 0.194 0.149

CefSharp 0.565 0.573 0.503

corefx 0.000 0.166 0.000

EntityFramework 0.044 0.059 0.067

gitextensions 0.393 0.431 0.402

Glimpse 0.213 0.202 0.185

Hearthstone-Deck-Tracker 0.083 0.109 0.104

ILSpy 0.190 0.213 0.203

MahApps.Metro 0.481 0.573 0.506

Mvc 0.128 0.153 0.130

Nancy 0.397 0.385 0.304

NLog 0.164 0.257 0.176

OpenRA 0.165 0.145 0.143

orleans 0.139 0.167 0.266

roslyn 0.084 0.249 0.247

ShareX 0.109 0.144 0.146

SparkleShare 0.404 0.441 0.430

VsVim 0.075 0.055 0.058

Wox 0.313 0.349 0.396

## Descriptive statistics

> library(MVN)

> uniNorm(modeData)

$`Descriptive Statistics`

 n Mean Std.Dev Median Min Max 25th 75th Skew Kurtosis

Default 20 0.210 0.159 0.152 0.000 0.565 0.103 0.333 0.775 -0.715

Complete 20 0.248 0.158 0.198 0.055 0.573 0.145 0.358 0.769 -0.671

Mixed 20 0.226 0.151 0.180 0.000 0.506 0.124 0.327 0.526 -1.036

$`Shapiro-Wilk's Normality Test`

 Variable Statistic p-value Normality

1 Default 0.8896 0.0265 NO

2 Complete 0.8926 0.0301 NO

3 Mixed 0.9246 0.1215 YES

## Wilcoxon signed-rank test

> wilcox.test(modeData[,2], modeData[,1], paired=TRUE, alternative="greater")

 Wilcoxon signed rank test with continuity correction

data: modeData[, 2] and modeData[, 1]

V = 185.5, p-value = 0.001409

alternative hypothesis: true location shift is greater than 0

> wilcox.test(modeData[,3], modeData[,1], paired=TRUE, alternative="greater")

 Wilcoxon signed rank test with continuity correction

data: modeData[, 3] and modeData[, 1]

V = 123, p-value = 0.1342

alternative hypothesis: true location shift is greater than 0