

代码及文档说明

数据预处理

将数据按照不同类重新拆分为不同sheet，对空缺数据进行模糊的估计补全

代码块

- 语言: R
- 引入第三方库(均为R语言库):
 - frontier: 随机前沿分析库
 - gdata: xlsx格式数据读取与处理
- 参考文档:
 - Froniter API: <https://cran.r-project.org/web/packages/frontier/index.html>

代码说明

预装库

```
install.packages("gdata", repos="http://cran.us.r-project.org")
install.packages("frontier", repos="http://R-Forge.R-project.org")
```

读取数据

调用第三方gdata库读取数据到列表中

```
library(gdata)
data <- read.xls("data.xlsx", sheet=1, na.strings=c("NA", "#DIV/0!"))
```

建模分析

以COR, EFF, GDP三者为例说明建模过程

代码如下：

```
sfaResult <- sfa( log( GDP ) ~ log( COR ) + log( EFF ),
  data = data )
coef( sfaResult, which = "ols" )
coef( sfaResult, which = "grid" )
coef( sfaResult )
```

输出数据

```
>      coef( sfaResult, which = "ols" )
(Intercept)    log(COR)    log(EFF)    sigmaSq
 22.5555812  -0.9290547   1.4795446   7.3287830
>      coef( sfaResult, which = "grid" )
(Intercept)    log(COR)    log(EFF)    sigmaSq    gamma
 22.9436470  -0.9290547   1.4795446   4.7310845   0.0500000
>      coef( sfaResult )
(Intercept)    log(COR)    log(EFF)    sigmaSq    gamma
22.586507112 -0.929064150   1.479553838   4.581522941   0.000326089
```