R Generate and Combine Fixed and Random Matrix

Go back to fan's R4Econ Repository or Intro Stats with R Repository.

```
options(knitr.duplicate.label = 'allow')
```

```
library(tidyverse)
library(knitr)
library(kableExtra)
# file name
st_file_name = 'fs_genmatrix'
# Generate R File
purl(paste0(st_file_name, ".Rmd"), output=paste0(st_file_name, ".R"), documentation = 2)
# Generate PDF and HTML
# rmarkdown::render("C:/Users/fan/R4Econ/support/matrix/fs_genmatrix.Rmd", "pdf_document")
# rmarkdown::render("C:/Users/fan/R4Econ/support/matrix/fs_genmatrix.Rmd", "html_document")
```

Generate Matrixes

Create a N by 2 Matrix from 3 arrays

Names of each array become row names automatically.

```
ar_row_one <- c(-1,+1)
ar_row_two <- c(-3,-2)
ar_row_three <- c(0.35,0.75)

mt_n_by_2 <- rbind(ar_row_one, ar_row_two, ar_row_three)
kable(mt_n_by_2) %>%
  kable_styling(bootstrap_options = c("striped", "hover", "responsive"))
```

ar_row_one	-1.00	1.00
ar_row_two	-3.00	-2.00
ar_row_three	0.35	0.75

Generate Random Matrixes

Random draw from the normal distribution, random draw from the uniform distribution, and combine resulting matrixes.

```
# Generate 15 random normal, put in 5 rows, and 3 columns
mt_rnorm <- matrix(rnorm(15,mean=0,sd=1), nrow=5, ncol=3)

# Generate 15 random normal, put in 5 rows, and 3 columns
mt_runif <- matrix(runif(15,min=0,max=1), nrow=5, ncol=5)

# Combine
mt_rnorm_runif <- cbind(mt_rnorm, mt_runif)

# Display
```

```r
kable(mt_rnorm_runif) %>%
  kable_styling(bootstrap_options = c("striped", "hover", "responsive"))
```

0.8207747	0.7700370	1.0745555	0.7193959	0.7530787	0.5795816	0.7193959	0.7530787
0.6896849	-1.0153198	0.0067784	0.0755410	0.9491194	0.2708525	0.0755410	0.9491194
-1.0736290	-0.6093964	-0.2843941	0.1259969	0.0765412	0.7925275	0.1259969	0.0765412
-1.4295168	1.3949995	-0.1893363	0.0706677	0.5744992	0.0823923	0.0706677	0.5744992
1.0031193	0.5047710	0.1831846	0.7190991	0.0269077	0.5239832	0.7190991	0.0269077