# TITLE OF THIS DOCUMENT: A SUBTITLE THAT MAY FLOW ONTO ADDITIONAL SPACE IF NECESSARY



Paul Johnson, Director, CRMDA <crmda@ku.edu> Brent Kaplan, GRA, CRMDA <crmda@ku.edu> November 30, 2016

#### 1 Nuts and Bolts

#### 1.1 DO NOT change the top part.

Leave the "output" section, font size, and that LaTeX stuff

```
output:
    pdf_document:
    keep_tex: true
    fig_caption: true
    latex_engine: pdflatex
    template: crmda-boilerplate.tex
    pandoc_args: [
        "--listings"
    ]
    fontsize: 11pt
    tables: true
    preamble:
        - \usepackage{xcolor}
        - \usepackage{lipsum}
```

This is pretty standard and you shouldn't change it. Some changes might be needed if you ADD LaTeX preamble statements, but don't delete the onese we have.

#### 1.2 DO please change Title, subtitle, your name

```
title: "My Fancy Rmd to PDF Document" subtitle: "Made by yours truly!"
```

Include a title, a subtitle.

```
author:
- name: Paul Johnson

affiliation: Center for Research Methods and Data Analysis

description: Ze Director

email: crmda@ku.edu
```

1425 Jayhawk Blvd. 470 Watson Library Lawrence, KS 66045-7555 Phone: 785-864-3353 Website: crmda.ku.edu Email: crmda@ku.edu Someone's got to get credit for the wonderful report, right? If you're a graduate student, you can put that right in the description line. If you are not the CRMDA, then you might want to change the email line.

## 2 LaTeX Syntax is allowed

### 2.1 Equations

```
 \begin{array}{c|c} 1 & \\ 2 & \\ Sigma_{gt}=\Lambda_{gt}\\ \end{array} \\ \end{array}
```

produces:

$$\Sigma_{gt} = \Lambda_{gt} \Psi_{gt} \Lambda'_{gt} + \Theta_{gt}$$

produces:

$$f(y|N,p) = \frac{N!}{y!(N-y)!} \cdot p^y \cdot (1-p)^{N-y} = \binom{N}{y} \cdot p^y \cdot (1-p)^{N-y}$$

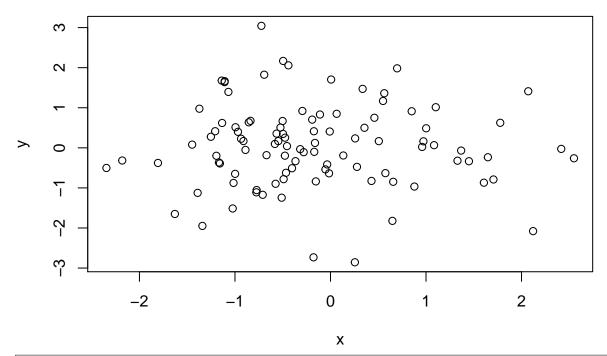
```
1 \frac{\$ \hat{y} = beta_{0} + beta_{2} x_{i} + beta_{3} + x_{j} + varepsilon_{ij} \$}{}
```

produces:

$$\hat{y} = \beta_0 + \beta_2 x_i + \beta_3 + x_j + \varepsilon_{ij}$$

#### **2.2** R code

```
 \begin{array}{l} \text{## This can be changed in the .tex preamble under lstset} \\ \text{set.seed} \left(1234\right) \\ \text{3} \\ \text{x} \leftarrow \text{rnorm} \left(100 \,,\, 0 \,,\, 1\right) \\ \text{4} \\ \text{y} \leftarrow \text{rnorm} \left(100 \,,\, 0 \,,\, 1\right) \\ \text{5} \\ \text{plot} \left(\text{x},\, \text{y}\right) \end{array}
```



 $1 \ knitr :: kable(head(data.frame(x, y)))$ 

X	у
-1.2070657	0.4145235
0.2774292	-0.4747185
1.0844412	0.0659935
-2.3456977	-0.5024778
0.4291247	-0.8259986
0.5060559	0.1669893

```
1 z <- "A Character String"
```

```
\begin{array}{l} 1 \\ 2 \\ print(xtable(head(data.frame(x,y))), \\ \end{array} comment \!\!\!=\!\!\! FALSE) \end{array}
```

	X	У
1	-1.21	0.41
2	0.28	-0.47
3	1.08	0.07
4	-2.35	-0.50
5	0.43	-0.83
6	0.51	0.17

```
library(rockchalk)
set.seed(2134234)
dat <- data.frame(x1 = rnorm(100), x2 = rnorm(100))
dat$y1 <- 30 + 5 * rnorm(100) + 3 * dat$x1 + 4 * dat$x2
dat$y2 <- rnorm(100) + 5 * dat$x2
m1 <- lm(y1 \sim x1, data = dat)
m2 <- lm(y1 \sim x2, data = dat)
```

Page 3 of 5

Table 2: Still have showAIC argument, as in previous versions

	Whichever	Whatever
	Estimate	Estimate
	(S.E.)	(S.E.)
(Intercept)	30.245***	29.774***
	(0.618)	(0.522)
x1	1.546*	
	(0.692)	
x2	•	3.413***
		(0.512)
N	100	100
RMSE	6.121	5.205
$R^2$	0.048	0.312
adj $R^2$	0.039	0.305
AIC	650.109	617.694

 $*p \le 0.05 ** p \le 0.01 *** p \le 0.001$ 

	Whichever	Whatever
	Estimate	Estimate
	(S.E.)	(S.E.)
(Intercept)	30.245***	29.774***
	(0.618)	(0.522)
x1	1.546*	
	(0.692)	
x2		3.413***
		(0.512)
N	100	100
RMSE	6.121	5.205
$R^2$	0.048	0.312
adj $\mathbb{R}^2$	0.039	0.305
AIC	650.109	617.694

 $*p \le 0.05**p \le 0.01***p \le 0.001$ 

Here's the question: Is this report stationary better than what we had?

Lets get a team vote.

By the way, in case you wanted to see a giant copy of the logo, lets test the ability to insert a PDF graphic:

