

# Homework 0

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**Problem 1.** How to reference R values within  $\text{\LaTeX}$  using  $\text{\textbackslash Sexpr\{}}$ .

**Solution 1.** Here is some R code...

```
x <- c(1, 2, 3, 4, 5)
y <- c(1, 2, 1.5, 3.5, 2.5)
x.mean <- mean(x); x.sd <- sd(x)
y.mean <- mean(y); y.sd <- sd(y)
```

The mean for  $x$  is 3 and the standard deviation is 1.58. The mean for  $y$  is 2.1 and the standard deviation is 0.96.

**Problem 2.** How to add regression tables to  $\text{\LaTeX}$  with  $xtable()$ .

**Solution 2.** Run the regression using the data above...

```
reg <- lm(y ~ x)
```

Table 1: This is a caption				
	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	0.7500	0.7837	0.96	0.4092
x	0.4500	0.2363	1.90	0.1530

**Problem 3.** How to add pdf plots to  $\text{\LaTeX}$  using knitr.

**Solution 3.** Figure 1 shows the regression line.

```
data <- data.frame(cbind(y, x))  
library(ggplot2)  
ggplot(data = data, aes(x = x, y = y)) +  
  geom_point(shape = 1) +  
  geom_smooth(method = lm) +  
  ggtitle("This is a title")
```

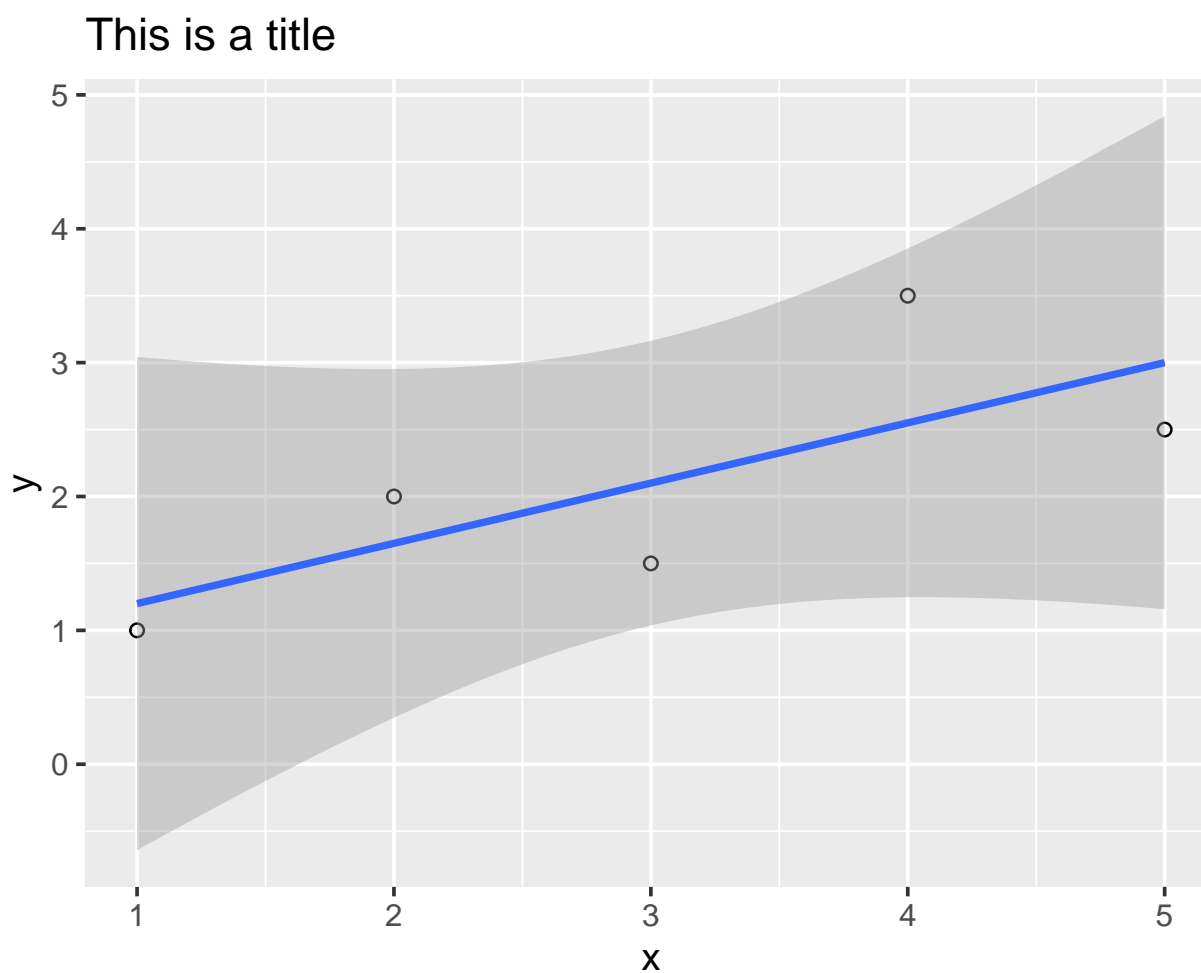


Figure 1: Regression line