DA420\_project1

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library(readxl)  
  
project1\_sheet <- read\_excel("project1\_sheet.xlsx")  
(project1\_sheet)

## # A tibble: 43 x 3  
## set\_name x y  
## <chr> <dbl> <dbl>  
## 1 s1 0 0  
## 2 s1 5 0  
## 3 s1 10 0  
## 4 s1 15 0  
## 5 s1 20 0  
## 6 s1 25 0  
## 7 s1 30 0  
## 8 s1 35 0  
## 9 s1 40 0  
## 10 s1 45 0  
## # ... with 33 more rows

library(tidyverse)

## ── Attaching packages ────────────────────────────────────────────────────────────────────── tidyverse 1.2.1 ──

## ✔ ggplot2 3.1.0 ✔ purrr 0.2.5  
## ✔ tibble 1.4.2 ✔ dplyr 0.7.8  
## ✔ tidyr 0.8.2 ✔ stringr 1.3.1  
## ✔ readr 1.2.1 ✔ forcats 0.3.0

## ── Conflicts ───────────────────────────────────────────────────────────────────────── tidyverse\_conflicts() ──  
## ✖ dplyr::filter() masks stats::filter()  
## ✖ dplyr::lag() masks stats::lag()

p1lm <- lm(y ~ x, data = (project1\_sheet %>% filter(set\_name == "s1")))  
p1lm

##   
## Call:  
## lm(formula = y ~ x, data = (project1\_sheet %>% filter(set\_name ==   
## "s1")))  
##   
## Coefficients:  
## (Intercept) x   
## 0 0

p2lm <- lm(y ~ x, data = (project1\_sheet %>% filter(set\_name == "s2")))  
p2lm

##   
## Call:  
## lm(formula = y ~ x, data = (project1\_sheet %>% filter(set\_name ==   
## "s2")))  
##   
## Coefficients:  
## (Intercept) x   
## 0.90909 -0.01818

p3lm <- lm(y ~ x, data = (project1\_sheet %>% filter(set\_name == "s3")))  
p3lm

##   
## Call:  
## lm(formula = y ~ x, data = (project1\_sheet %>% filter(set\_name ==   
## "s3")))  
##   
## Coefficients:  
## (Intercept) x   
## 2.309e-15 -1.248e-16

p4lm <- lm(y ~ x, data = (project1\_sheet %>% filter(set\_name == "s4")))  
p4lm

##   
## Call:  
## lm(formula = y ~ x, data = (project1\_sheet %>% filter(set\_name ==   
## "s4")))  
##   
## Coefficients:  
## (Intercept) x   
## -2.273 0.000

summary(project1\_sheet %>% filter(set\_name == "s1"))

## set\_name x y   
## Length:11 Min. : 0.0 Min. :0   
## Class :character 1st Qu.:12.5 1st Qu.:0   
## Mode :character Median :25.0 Median :0   
## Mean :25.0 Mean :0   
## 3rd Qu.:37.5 3rd Qu.:0   
## Max. :50.0 Max. :0

summary(project1\_sheet %>% filter(set\_name == "s2"))

## set\_name x y   
## Length:11 Min. : 0.0 Min. :-5.0000   
## Class :character 1st Qu.:12.5 1st Qu.:-5.0000   
## Mode :character Median :25.0 Median : 1.0000   
## Mean :25.0 Mean : 0.4545   
## 3rd Qu.:37.5 3rd Qu.: 5.0000   
## Max. :50.0 Max. : 5.0000

summary(project1\_sheet %>% filter(set\_name == "s3"))

## set\_name x y   
## Length:10 Min. : 5.0 Min. :-20.00   
## Class :character 1st Qu.: 5.0 1st Qu.: -8.75   
## Mode :character Median : 5.0 Median : 0.00   
## Mean : 9.5 Mean : 0.00   
## 3rd Qu.: 5.0 3rd Qu.: 8.75   
## Max. :50.0 Max. : 20.00

summary(project1\_sheet %>% filter(set\_name == "s4"))

## set\_name x y   
## Length:11 Min. : 0.0 Min. :-25.000   
## Class :character 1st Qu.:12.5 1st Qu.:-15.000   
## Mode :character Median :25.0 Median : -5.000   
## Mean :25.0 Mean : -2.273   
## 3rd Qu.:37.5 3rd Qu.: 10.000   
## Max. :50.0 Max. : 25.000

library(ggplot2)  
project1\_sheet %>%   
 ggplot(aes(x=x, y=y, colour=set\_name))+  
 geom\_point()+  
 geom\_smooth(method = lm, se = FALSE)+  
 theme(legend.position = "none")+  
 facet\_wrap(~set\_name, ncol=2) +  
 theme\_light()

