

Spring 2025 Score _____ /
20

Homework #1

[Chaemin Lee, lab2 Anthony]

highlight and click “Run” the line below before knitting

```
install.packages("rmarkdown")
```

```
# set seed replace 12345678 with your student ID  
seed = 12345678
```

```
# loads in data for the full population  
pop<-read.csv("HW1.csv", head = TRUE)  
names(pop) <- c("X", "Y")
```

```
# sets the seed for the random number generator  
set.seed(seed+25)
```

```
# assigns a "random" sample of 12 from the population to 'data'  
data<-pop[sample(nrow(pop), 12, replace=FALSE),]
```

```
# use this data  
data
```

```
##      X Y  
## 954  5 8  
## 903  7 6  
## 965 13 8  
## 161  5 8  
## 717  9 7  
## 656 11 7  
## 255  9 8  
## 127  5 8  
## 754  6 5  
## 441 10 7  
## 810 11 7  
## 276  5 5
```

```
# regression  
model <- lm(Y ~ X, data=data)  
summary(model)
```

```
##  
## Call:  
## lm(formula = Y ~ X, data = data)  
##  
## Residuals:  
##      Min       1Q   Median       3Q      Max  
## -1.8222 -0.4278 -0.1333  1.0000  1.2667  
##
```

```
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  6.28889    1.02749   6.121 0.000113 ***
## X            0.08889    0.12151   0.732 0.481254
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.153 on 10 degrees of freedom
## Multiple R-squared:  0.05079,    Adjusted R-squared:  -0.04413
## F-statistic: 0.5351 on 1 and 10 DF,  p-value: 0.4813
# creates plot
plot(data$X, data$Y, main=c(paste("Scatterplot")), xlim=c(0,15), ylim=c(0,15), xaxs = "i", yaxs = "i",
abline(lm(Y ~ X, data=data)))
```

Scatterplot

