Spring 2025 . . . . **Score** _____ /
20

Homework #7

[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("HW7.csv")
names(pop) <- c("X", "Z", "Y")
```

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

```
# assigns a "random" sample of 10 from the population to 'data'
data<-pop[sample(nrow(pop), 10, replace=FALSE),]
```

```
# use this matrix
matrix<-round(cor(data),3)
matrix
```

```
##        X      Z      Y
## X 1.000  0.295  0.016
## Z 0.295  1.000 -0.478
## Y 0.016 -0.478  1.000
```

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

```
##
## Call:
## lm(formula = Y ~ X + Z, data = data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -2.3486 -1.3323 -0.0757  0.4934  3.1496
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   7.5370     2.9196   2.581   0.0364 *
## X             0.1673     0.3324   0.503   0.6303
## Z            -0.3732     0.2412  -1.547   0.1658
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.968 on 7 degrees of freedom
```

```
## Multiple R-squared:  0.255,  Adjusted R-squared:  0.04214
## F-statistic: 1.198 on 2 and 7 DF,  p-value: 0.3569
```