1. Ex.8

流行病學與生物統計計算

Homework2

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# Ex.8 : Given 50 students, odd-numbered students are boys, even are girls,

#(11, 16, 23, 31, 36, 47, 50) pass midterm

#(3, 9, 16, 20, 27, 31, 36, 49, 50) pass final

# Ex.8-1 : boys who passed midterm and final

midterm <- c(11, 16, 23, 31, 36, 47, 50)

final <- c(3, 9, 16, 20, 27, 31, 36, 49, 50)

boy <- seq(1, 50, by = 2)

girl <- seq(2, 50, by = 2)

intersect(intersect(midterm, final), boy)

**# no.31**

# Ex.8-2 : girls who passed midterm and final

intersect(intersect(midterm, final), girl)

**# no.16, no.36, no.50**

# Ex.8-3 : boys who passed midterm but failed final

setdiff(intersect(boy, midterm), final)

**# no.11, no.23, no.47**

# Ex.8-4 : girls who passed final but failed midterm

setdiff(intersect(girl, final), midterm)

**# no.20**

1. Ex.9

# Ex.9 write a function to estimate regression coefficients

getwd()

setwd("/Users/raymond/Desktop/R/")

seizure <- read.csv("seizure.csv")

x <- matrix()

y <- matrix()

simp\_reg <- function(x, y) {

X <- cbind(rep(1, nrow(seizure)), x)

Y <- y

return(solve(t(X) %\*% X) %\*% t(X) %\*% Y)

}

simp\_reg(seizure$ltime, seizure$y)

**#intercept : -3.922414**

**#slope : 15.906957**