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2023-01-10

install.packages(“ggplot2”) library(ggplot2)

heart <- read.csv(“/Users/user/Desktop/Yonsei/Junior/3-2/Introduction to Data Analysis and Regression/Heart.csv”)

head(heart)

heart1 <- heart[c(6,9)] heart1

plot(heart1)

sum1 <- heart1[1] * heart1[2]

sum1

as.numeric(dim(heart1)[1])

as.numeric(lapply(heart1[1], mean)) as.numeric(lapply(heart1[2], mean))

Sxy <- as.numeric(lapply(sum1, sum)) - as.numeric(dim(heart1)[1]) * as.numeric(lapply(heart1[1], mean)) * as.numeric(lapply(heart1[2], mean))

Sxy

sum2 <- heart1[1]^2

sum2

Sxx <- as.numeric(lapply(sum2, sum)) - as.numeric(dim(heart1)[1]) * as.numeric(lapply(heart1[1], mean))^2

Sxx

beta0 <- as.numeric(lapply(heart1[2], mean)) - Sxy / Sxx * as.numeric(lapply(heart1[1], mean))

beta0

beta1 <- Sxy / Sxx

beta1

abline(beta0, beta1, col=“red”)

sum3 <- heart1[2]^2

sum3

Syy <- as.numeric(lapply(sum3, sum)) - as.numeric(dim(heart1)[2]) * as.numeric(lapply(heart1[2], mean))^2

Syy

R <- beta1 * Sxy / Syy

R

MaxHR <- as.vector(heart1[2]) Chol <- as.vector(heart1[1])

data_lm <- lm(MaxHR~Chol, data=heart1) data_lm

summary(data_lm)

The R-squared in summary is 1.178e-05, which is also too small to assess.