# exercise\_1 script

# dataset 1

datum <- read.csv("exercise\_1\_dataset1.csv")

# examine the data

head(datum)

# plot the data

plot(Spiders ~ PreyFrogs, data=datum,

xlab = expression("Frog density (individuals/m"^2\*")"),

ylab = expression("Spider density (individuals/m"^2\*")"))

# fit the regression

results <- lm(Spiders ~ PreyFrogs, data = datum)

abline(results)

# examine the results

summary(results)

confint(results)

# 95% ci

(upperlimit - lowerlimit)/2

ci <- (confint(results)[2,2] - confint(results)[2,1])/2

p <- summary(results)$coefficients[2,4]

r2 <- summary(results)$r.squared

# dataset 2

datum <- read.csv("exercise\_1\_dataset2.csv")

# examine the data

head(datum)

# plot the data

plot(Size ~ Elevation, data=datum, xlab = "Elevation (m)", ylab = "Flower size (cm)")

# fit the regression

results <- lm(Size ~ Elevation, data=datum)

abline(results)

# examine the results

summary(results)

confint(results)

# 95% ci

effect <- summary(results)$coefficients[2,1] \* 1000

ci <- (confint(results)[2,2] - confint(results)[2,1])/2 \* 1000

ci <- (confint(results)[2,2] - results$coefficients[2]) \* 1000

p <- summary(results)$coefficients[2,4]

r2 <- summary(results)$r.squared

effect; ci; r2

# dataset 3

datum <- read.csv("exercise\_1\_dataset3.csv")

# examine the data

head(datum)

# plot the data

plot(Time ~ Predators, data=datum, xlab = "Predator abundance", ylab = "Foraging time (minutes)")

# fit the regression

results <- lm(Time ~ Predators, data=datum)

abline(results)

# examine the results

summary(results)

confint(results)

# 95% ci

effect <- summary(results)$coefficients[2,1]

ci <- (confint(results)[2,2] - confint(results)[2,1])/2

ci <- (confint(results)[2,2] - results$coefficients[2])

p <- summary(results)$coefficients[2,4]

r2 <- summary(results)$r.squared