###############################

# analysis script

#

#this script loads the processed, cleaned data, does a simple analysis

#and saves the results to the results folder

#load needed packages. make sure they are installed.

library(ggplot2) #for plotting

library(broom) #for cleaning up output from lm()

library(here) #for data loading/saving

#path to data

#note the use of the here() package and not absolute paths

data\_location <- here::here("starter-analysis-exercise","data","processed-data","processeddata.rds")

#load data.

mydata <- readRDS(data\_location)

######################################

#Data fitting/statistical analysis

######################################

############################

#### First model fit

# fit linear model using height as outcome, weight as predictor

lmfit1 <- lm(Height ~ Weight, mydata)

# place results from fit into a data frame with the tidy function

lmtable1 <- broom::tidy(lmfit1)

#look at fit results

print(lmtable1)

# save fit results table

table\_file1 = here("starter-analysis-exercise","results", "tables-files", "resulttable1.rds")

saveRDS(lmtable1, file = table\_file1)

############################

#### Second model fit

# fit linear model using height as outcome, weight and gender as predictor

lmfit2 <- lm(Height ~ Weight + Gender, mydata)

# place results from fit into a data frame with the tidy function

lmtable2 <- broom::tidy(lmfit2)

#look at fit results

print(lmtable2)

# save fit results table

table\_file2 = here("starter-analysis-exercise","results", "tables-files", "resulttable2.rds")

saveRDS(lmtable2, file = table\_file2)

# Fit linear model using Height as outcome, Age and Occupation as predictors

lmfit3 <- lm(Height ~ Age + Occupation, mydata)

# Place results from fit into a data frame with the tidy function

lmtable3 <- broom::tidy(lmfit3)

# Look at fit results

print(lmtable3)

# Save fit results table

table\_file3 <- here("starter-analysis-exercise", "results", "tables-files", "resulttable3.rds")

saveRDS(lmtable3, file = table\_file3)