vectorA <- c(1, 2, 3, 4, 5) matrix_result <- matrix(0, nrow = 5, ncol = 5)

for (i in 1:5) { for (j in 1:5) { matrix_result[i, j] <- abs(vectorA[i] - vectorA[j]) } }

print(matrix_result)

for (i in 1:5) { output <- " " for (j in 1:i) { output <- paste0(output, "*") } print(output) }

fib_sequence <- function() { start <- as.integer(readline(prompt = "Enter starting number:"))

if (start <= 0) { print("Please enter a positive number") return() }

a <- 0 b <- 1 count <- 0 result <- c()

repeat { if (count >= start) { if (b > 500) { break } result <- c(result, b) }

```
temp <- a + b
a <- b
b <- temp
count <- count + 1
```

} print(result) }

household_data <- read.csv("import_march.csv") head(household_data, 6)

male_subset <- household_data[household_data$Gender == "Male",] $female_subset <- household_data[household_data$Gende
== "Female",]

print(paste("Number of male observations:", nrow(male_subset))) print(paste("Number of female observations:", nrow(female_subset)))

gender_counts <- table(household_data$Gender)

barplot(gender_counts, main = "Number of Males and Females in Household", xlab = "Gender", ylab = "Count", col = c("pink", "lightblue"), legend.text = c("Female", "Male"), beside = TRUE)

expenses <- c(60, 10, 5, 25) expense_labels <- c("Food", "Electricity", "Savings", "Miscellaneous") percentages <- paste(expense_labels, expenses, "%")

pie(expenses, labels = percentages, main = "Dela Cruz Family Monthly Expenses", col = c("skyblue", "yellow", "green", "orange"))

data(iris) str(iris)

iris_means <- data.frame(Sepal.Length = mean(iris$Sepal.Length), $Sepal.Width = mean(iris$Sepal.Width), Petal.Length = mean(iris$Petal.Length), $Petal.Width = mean(iris$Petal.Width)) print(iris_means)

species_counts <- table(iris$Species) pie(species_counts, main = "Iris Species Distribution", col = c("red", "blue", "green"), labels = paste(names(species_counts), species_counts))

setosa <- iris[iris$Species == "setosa",] $versicolor < -iris[iris$Species == "versicolor",] virginica <- iris[iris$Species == "virginica",]

print("Last 6 rows of Setosa:") print(tail(setosa, 6))

print("Last 6 rows of Versicolor:") print(tail(versicolor, 6))

print("Last 6 rows of Virginica:") print(tail(virginica, 6))

iris$Species < $-as.factor(iris$Species)

plot(iris$Sepal.Length, iris$Sepal.Width, main = "Iris Dataset", sub = "Sepal width and length", xlab = "Sepal Length", ylab = "Sepal Width", pch = c(16, 17, 18)[as.numeric(iris$Species)], $col = c("red", "blue", "green")[as.numeric(iris$Species)]$

legend("topright", legend = levels(iris$Species), pch = c(16, 17, 18), col = c("red", "blue", "green"))

library(readxl) library(dplyr)

alexa <- read_xlsx("alexa-file.xlsx")

alexa$variation <- -gsub("BlackDot", "BlackDot", alexa$variation) alexa$variation <- -gsub("BlackPlus", "BlackPlus", alex
alexa$variation <- -gsub("BlackShow", "BlackShow", alexa$variation) alexa$variation <- -gsub("BlackSpot", "BlackSpot", a
alexa$variation <- -gsub("WhiteDot", "WhiteDot", alexa$variation) alexa$variation <- -gsub("WhitePlus", "WhitePlus", ale
alexa$variation <- -gsub("WhiteShow", "WhiteShow", alexa$variation) alexa$variation <- -gsub("WhiteSpot", "WhiteSpot",

head(alexa, 10)

variations <- alexa %>% count(variation) print(variations)

save(variations, file = "variations.RData")

barplot(variations$n, names.arg = variations$variation, main = "Total Number of Alexa Variations", xlab =
"Variation", ylab = "Count", col = rainbow(nrow(variations)), las = 2, cex.names = 0.7)

black_vars <- variations[grepl("Black", variations$variation),]white_vars <- -variations[grepl("White", variations$variation),
]

par(mfrow = c(1, 2))

barplot(black_vars$n, names.arg = black_vars$variation, main = "Black Variations", xlab = "Variation", ylab
= "Count", col = "black", las = 2, cex.names = 0.8)

barplot(white_vars$n, names.arg = white_vars$variation, main = "White Variations", xlab = "Variation", ylab
= "Count", col = "gray", las = 2, cex.names = 0.8)

par(mfrow = c(1, 1))