library(lubridate)

Input\_data <- read.csv(“Sample\_data.csv”)

# Convert DateTimeOriginal to POSIXct

input\_data$DateTimeOriginal <- ymd\_hms(input\_data$DateTimeOriginal)

# Initialize a list to hold data for each NestID

nest\_data <- list()

unique(input\_data$NestID)

# Loop through each unique NestID

for (nest\_id in unique(input\_data$NestID)) {

# Filter the data for the current NestID

nest\_df <- subset(input\_data, NestID == nest\_id)

# Check if the first entry is a "Cam/Set"

if (nrow(nest\_df) == 0 || nest\_df$Tag[1] != "Cam/Set") {

warning("First entry for NestID ", nest\_id, " is not Cam/Set or data is missing.")

next

}

# Initialize variables for the current NestID

current\_hour <- floor\_date(nest\_df$DateTimeOriginal[1], "hour") + hours(1)

leave\_time <- current\_hour

hour\_data <- list()

# Process each row in the filtered dataframe

for (i in 2:nrow(nest\_df)) {

row <- nest\_df[i]

timestamp <- row$DateTimeOriginal

# Initialize hour\_data for the current hour if not already done

hour\_key <- current\_hour #)as.character(

if (!hour\_key %in% names(hour\_data)) {

hour\_data[[hour\_key]] <- as.difftime(0, units = "secs")

}

#

if (row$Tag == "Return") {

leave\_duration <- as.numeric(difftime(timestamp, leave\_time, units = "secs")) # Duration in seconds

# Loop until leave\_duration is zero

while (leave\_duration > 0) {

diff <- min(3600, leave\_duration) # 1 hour in seconds

hour\_data[[hour\_key]] <- hour\_data[[hour\_key]] + as.difftime(diff, units = "secs")

leave\_duration <- leave\_duration - diff

if (diff == 3600) {

current\_hour <- current\_hour + hours(1)

hour\_key <- current\_hour #)as.character(

hour\_data[[hour\_key]] <- as.difftime(0, units = "secs")

}

}

} else if (row$Tag == "Left") {

leave\_time <- timestamp

current\_hour <- floor\_date(timestamp, "hour")

}

}

# Save data for this NestID

nest\_data[[nest\_id]] <- hour\_data

}

# Print out the results for each NestID

for (nest\_id in names(nest\_data)) {

cat("NestID:", nest\_id, "\n")

hour\_data <- nest\_data[[nest\_id]]

for (hour in names(hour\_data)) {

cat(hour, "time away", hour\_data[[hour]], "\n")

}

cat("\n")

}