Problem 1.)

```
# Keiland Pullen
# DSC 465 - Winter 2022
# Homework 4

library(ggplot2)
library(waffle)

# Set working directory
setwd("C:/Users/Home/Desktop/DePaul/Winter - DSC - 465 - Data Visualization/Module 7/Homework")
getwd()

# Load data file from project
ds = read.csv("crimeData.csv")
ds

# View data file
View(ds)

# view arrests
ds$ARREST

# Convert arrest values of Y/N to 1/0
ds$ARREST<-ifelse(ds$ARREST=="Y",1,0)

# view arrests
ds$ARREST

# Display total number of arrest for 1s and 0s
table(ds$ARREST)

# variable for Non-Arrests or 0
zeroArrests = length(which(ds$ARREST == 0))
zeroArrests

# variable for Yes-Arress or 1
oneArrest = length(which(ds$ARREST == 1))
oneArrest

# data for Waffle Chart
totalArrests <- c('No Arrests'=zeroArrests, 'Yes Arrests'=oneArrest)

# create waffle chart
waffle(totalArrests/2000, rows=10, size=0.7,
      use_glyph = "user",
      colors = c("red","green4"),
      title="Total Number of Arrests per Crime in 2021",
      xlab="1 square = 2000 Crime Incidents")


### Attempted to use Glyphs, but could not get fontawesome fonts installed correctly.
### Will continue working until glyphs are installed...
```

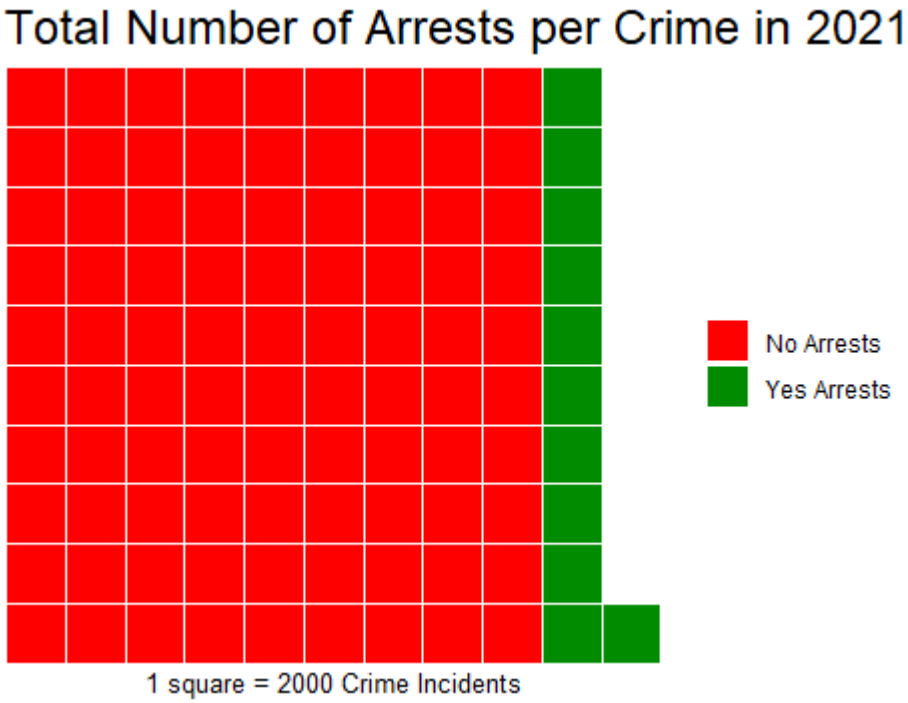
Keiland Pullen

The following Waffle Chart is meant to display the total number of arrests that were made, by the Chicago Police Department, for each reported incident in 2021. The total number is 200,000+, so the Chart is scaled by a factor of 2000, allowing each cube to represent 2000 reported crime incidents.

The R code above explains how the Waffle Chart was created. I did encounter an issue when attempting to use Glyphs. The following error message was returned:

Error: FontAwesome not found. Install via: https://github.com/FortAwesome/Font-Awesome/tree/master/fonts

Several attempts were made to upload the glyphs, unfortunately, each attempted resulted in a new error message.



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Problem 2.)

The following Stacked Bar Chart was created with Tableau. It displays the number of crimes reported in each of Chicago's 50 wards. Then each bar displays if there was an arrest made for the reported crime/incident.

Using Tableau, the first step was to load the data source using the project data from the group project. The columns are created using the "Ward" variable. The rows are created using a count aggregation of the "Arrest" variable. The colors we defined by using the "Arrest" variable (dimension type) as a "Color Filter".

Also, for these two colors (Red and Green), the Preferences.tps file was updated to include them as a new color palette. The following code snippet was added to the file at C:\Users\Home\Documents\My Tableau Repository\Preferences.tps

```
<?xml version='1.0'?>

<workbook>
	<preferences>
		<color-palette name="Chicago 1" type = "regular">
			<color>#FF0000</color>
			<color>#008000</color>
		</color-palette>
	</preferences>
</workbook>
```