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Assignment 7 – uploaded to github

Utah\_Religions\_by\_County <- read.csv(Data\_Course\_Rasmussen/assignments/Assignment\_7/Utah\_Religions\_by\_County.csv)

dat <- Utah\_Religions\_by\_County

colnames(dat)

#tidy up my data for the applicable information that follows

dat <- dat %>%

rename(

county = County,

population = Pop\_2010,

non\_religious = `Non-Religious`) %>%

pivot\_longer(cols = c("Assemblies of God", "Episcopal Church", "Pentecostal Church of God", "Greek Orthodox",

"LDS", "Southern Baptist Convention", "United Methodist Church", "Buddhism-Mahayana",

"Catholic", "Evangelical", "Muslim", "Non Denominational", "Orthodox"),

names\_to = "religion",

values\_to = "adherents") %>%

mutate(proportion\_religious = adherents / population,

proportion\_non\_religious = non\_religious / population)

str(dat)

# Plot population vs. proportion of religious adherents

ggplot(dat, aes(x = population, y = proportion\_religious, color = religion)) +

geom\_point() +

labs(title = "Population vs. Proportion of Religious Adherents by County",

x = "Population",

y = "Proportion of Religious Adherents")

# Plot proportion of specific religion vs. proportion of non-religious people

ggplot(dat, aes(x = proportion\_religious, y = proportion\_non\_religious, color = religion)) +

geom\_point() +

labs(title = "Proportion of Specific Religion vs. Proportion of Non-Religious People by County",

x = "Proportion of Religious Adherents",

y = "Proportion of Non-Religious People")

# Correlation between population and proportion of religious adherents

correlation\_population\_religious <- dat %>%

group\_by(religion) %>%

summarize(correlation = cor(population, proportion\_religious, use = "complete.obs"))

# Correlation between proportion of specific religion and proportion of non-religious people

correlation\_religious\_non\_religious <- dat %>%

group\_by(religion) %>%

summarize(correlation = cor(proportion\_religious, proportion\_non\_religious, use = "complete.obs"))

# combining the 2 against each other for fun

comparison <- correlation\_population\_religious %>%

rename(correlation\_population = correlation) %>%

inner\_join(correlation\_religious\_non\_religious %>%

rename(correlation\_non\_religious = correlation), by = "religion")

# Visual of the comparison

ggplot(comparison, aes(x = correlation\_population, y = correlation\_non\_religious, label = religion)) +

geom\_point() +

geom\_text(vjust = -0.5, hjust = 0.5) +

labs(title = "Comparison of Correlation Indices",

x = "Correlation with Population",

y = "Correlation with Non-Religious Proportion")