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LING82100 – Homework 1

Part 1. Arithmetic

1. (1/3)+(1/4)
2. (2^10)+1
3. f <- 440
   1127*log(1+(f/700))
4. a <- 2
   b <- 4
   c <- -4
   (-b+sqrt(((b^2)-(4*a*c))))/(2*a)

Part 2. Categorical Data

Q1: How many times did employees at the three department stores use 'r' in the word "fouRth" in the emphatic condition?

Commands: nycdf <- read.csv("NYC.csv")
table(nycdf$r, nycdf$emphasis, nycdf$word)

Answer: 35

Q2: What percentage of the time did employees at S. Klein's use r in the word "flooR"?

Commands: floorcounts <- xtabs(~ r + store + word, data = nycdf, subset = word == "flooR")
prop.table(floorcounts, margin = 2)

Answer: 11.538%

Part 3: Ratio Data

Q1: What are the sample quartiles for VOT?

Commands: votdf <- read.table(file = "VOT.tsv", header = TRUE)
vots <- votdf$vot
quantile(vots)

Answer: The quartiles going from 1st to 3rd are -17.975, 13.825, and 27.365.

Q2: What is the mean of Spanish speakers' VOTs?

Commands: spanvots <- votdf[votdf$language == "spanish",]
mean(spanvots$vot)

Answer: -24.31306

Q3: What is the sample standard deviation of English speakers' VOTs?

Commands: engvots <- votdf[votdf$language == "english",]
sd(engvots$vot)

Answer: 19.86479