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LING82100 – Homework 2

Part 1

In a corpus of spontaneous American English phone conversations, there were 501 prepositional dative constructions out of a total of 2360 dative constructions; the other dative constructions were double object. This was significant at $\alpha = .05$ (sign test, two-tailed $p < 2.2e\text{-}16$, CI: .196, .229).

R Expression: binom.test(x = 501, n = 2360, p = 0.5, conf.level = 0.95)

Part 2
a) Number of wins for the Stanford tagger over the NLP4J tagger

Answer: 943

R Expressions: ptb <- read.table(file = "PTB.tsv", header = TRUE, comment.char = "")
stanfordwins <- ptb$gold.tag == ptb$Stanford.tag & ptb$gold.tag != ptb$NLP4J.tag
sum(stanfordwins)

b) Number of wins for the NLP4J tagger over the Stanford tagger

Answer: 1016

R Expressions: nlp4jwins <- ptb$gold.tag == ptb$NLP4J.tag & ptb$gold.tag != ptb$Stanford.tag
sum(nlp4jwins)

c) McNemar test results. Is one tagger significantly better at $\alpha = 0.5$? If so, which one?

Answer: At $\alpha = 0.5$, neither tagger is significantly better than the other (p-value = .1038).

R Expression: mcnemar.test(stanfordwins, nlp4jwins)