```r
 1: library(gsl)
 2: library(ggplot2)
 3:
 4: beta.var  <- function(pair) {
 5:   a <- pair[1]
 6:   b <- pair[2]
 7:   return((a*b)/((a+b)*(a+b)*(a+b+1)))
 8: }
 9:
10: pairs <- expand.grid(a= 1:10, b=1:10)
11: pairs$entropy <- apply(pairs, 1, beta.var)
12:
13: ggplot(pairs, aes(x = a + b, y = entropy)) +
14:   geom_point() +
15:   labs(x = "a + b", y = "Variance") +
16:   ggtitle("Variance of Beta Distribution vs. a + b")
17:
18: ggsave(argv[1])
```