

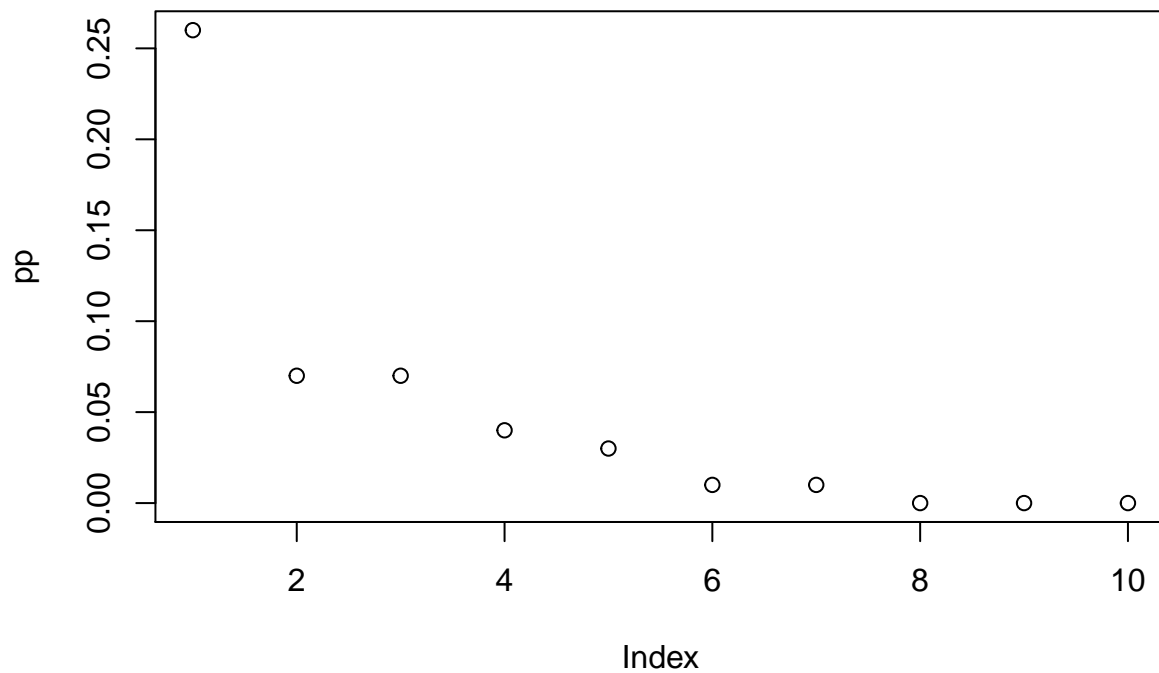
Biostat 601 Hw 11

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December 13, 2016

Problem 3(c)

```
rm(list=ls())
m <- 1e2
l <- 1e5
k <- 1e1
x <- matrix(runif(m*l*k, -1, 1), m, l*k)
a <- 1/3
epsi <- 1e-3
pp <- c()
for(i in 1:k){
  n <- i*l
  t <- rowSums((x^2)[,1:n]) / n
  p <- mean(abs(t-a) > epsi)
  pp <- c(pp,p)
}
plot(pp)
```



Problem 4(d)

```
rm(list=ls())
m <- 1e4
n <- 100
x <- matrix(runif(m*n, -0.5, 0.5), m, n)
prob <- mean(abs(rowSums(x)) > 10)
print(prob)
```

```
## [1] 3e-04
```

Problem 6(d)

```
rm(list=ls())
m <- 1e4
n <- 1e2
qq <- c()
for(i in 1:m){
  x <- runif(n, 0, 1)
  v <- min(x)
  q <- n*v
  qq <- c(qq, q)
}
p <- ppoints(100)
qt <- quantile(qq,p)
plot(qexp(p),qt)
```

