ntreat <- 5; nu1 <- ntreat-1; s2 <- 9; alpha <- 0.05

print("replications power",quote=FALSE)

for(r in 2:20){

nu2 <- ntreat\*r-5

fcrit <- qf(1-alpha,nu1,nu2)

ncp <- 10.125\*r/s2

power <- pf(fcrit,nu1,nu2,ncp=ncp,lower.tail=FALSE)

print(c(r,power),quote=FALSE)

}

time <- c(62,60,63,59, 63,67,71,64,65,66,68,66,71,67,68,68,56,

62,60,61,63,64,63,59)

poison <- as.factor(rep(1:4,c(4,6,6,8)))

# model <- aov(poison ~ time)

#anova\_table <- summary(model)

print(1 - pf(13.57,3,20))

p = 3.5 \* 1e-5

z = qnorm(0.975)

print(p \* (1 - p) / (1e-6 / z)^2)

F0 = 13.57

ST0 = 112

R0 = 7

k1 = k2 = k3 = 0

m = 134446353

for (i in 1:m){

time\_ran = sample(time)

y\_dd = mean(time\_ran)

y\_1d = mean(time\_ran[1:4])

y\_2d = mean(time\_ran[5:10])

y\_3d = mean(time\_ran[11:16])

y\_4d = mean(time\_ran[17:24])

ST = 4 \* (y\_1d - y\_dd)^2 + 6 \* (y\_2d - y\_dd)^2 + 6 \* (y\_3d - y\_dd)^2 + 8 \* (y\_4d - y\_dd)^2

SE = sum((time\_ran[1:4] - y\_1d)^2) + sum((time\_ran[5:10] - y\_2d)^2) +

sum((time\_ran[11:16] - y\_3d)^2) + sum((time\_ran[17:24] - y\_4d)^2)

F\_stat = 20 / 3 \* ST / SE

R = max(y\_1d, y\_2d, y\_3d, y\_4d) - min(y\_1d, y\_2d, y\_3d, y\_4d)

if(F\_stat > F0){

k1 = k1 + 1

}

if(ST > ST0){

k2 = k2 + 1

}

if(R > R0){

k3 = k3 + 1

}

}

k1/m

k2/m

k3/m