**STAT 201B Homework 3** by Hanze Yao

Q5 (b)

lambda0 <- 1

n <- 20

alpha <- 0.05

B <- 10000 # Run Wald test 10000 times.

W <- rep(0, B)

for (i in 1:B) {X <- rpois(n, lambda0) # Generate n random variables iid poisson distribution.

W[i] <- (mean(X) - lambda0) / sqrt(mean(X) / n)

}

num\_rejection <- sum(abs(W) > qnorm(1 - alpha / 2))

type\_one\_error\_rate <- num\_rejection / B

