Assignment - 9.1

1. If Z is norm (mean = 0, sd = 1)
 find P(Z > 2.64)
    1. - pnorm(2.64, mean = 0, sd = 1, lower.tail = TRUE, log.p = FALSE) =
       1 - 0.9958 = 0.0042

 find P(|Z| > 1.39)
 P(|Z| > 1.39) = P(Z > 1.39) + P(Z < -1.39) = [1 - P(z < 1.39)] + [1 - P(z < 1.39)]
   = 2*[1 - P(z < 1.39)] = 2*[1 - pnorm(1.39, mean = 0, sd = 1, lower.tail = TRUE, log.p = FALSE)]
    = 2(1 - 0.9177) = 2(0.0823) = 0.1646

2. Suppose p = the proportion of students who are admitted to the graduate school
of the University of California at Berkeley, and suppose that a public relation
officer boasts that UCB has historically had a 40% acceptance rate for its graduate
school. Consider the data stored in the table UCBAdmissions from 1973. Assuming
these observations constituted a simple random sample, are they consistent with the
officerÃ¢..s claim, or do they provide evidence that the acceptance
rate was significantly less than 40%?
Use an ÃŽÂ± = 0.01 significance level.

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Ho :  p = 0.4
Ha :  p < 0.4
alpha = 0.01


qnormval <- qnorm(0.99)
#qnormval - 2.326348

newucb_data <- as.data.frame(UCBAdmissions)
View(newucb_data)
dim(newucb_data)
summary(newucb_data$Admit)
phat <- 12/(24)
t <- (phat-0.4)/sqrt(0.4*0.6/(24))
t > qnormval , so we accept null hypothesis, the observed data are consistent with the officer's claim
```