Assignment 9.1 ACD

> #1. If Z is norm (mean = 0, sd = 1)> #Find P(Z > 2.64)> 1 - pnorm(2.64, mean=0, sd=1)[1] 0.004145301> #Find P(|Z| > 1.39)> 1-(pnorm(1.39)-pnorm(-1.39))[1] 0.1645289

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 officerâ..s claim, or do they provide evidence that the acceptance rate was significantly less than 40%? Use an Î± = 0.01 significance level.

> #ho ; p=0.4

> #ha; p < 0.4

> #alpha =0.01

> #we use qnorm function

> -qnorm(0.99)

[1] -2.326348

> # now for test statistics

> newucb\_data <- as.data.frame(UCBAdmissions)

> View(newucb\_data)

> dim(newucb\_data)

[1] 24 4

> summary(newucb\_data$Admit)

Admitted Rejected

12 12

> phat<-12/(24)

> t<- (phat - 0.4)/sqrt(0.4\*0.6/(24))

> t

[1] 1

#our test statistics is not less than -2.326348

#so we do not reject our null hypothesis Ho