Assignment 9.1

Ans 1

a)0.9979

b)0.1846

Ans 2

Our null hypothesis in this problem is H0: p=0.4 and the alternative hypothesis is H1 : p<0.4

We reject the null hypothesis if p^ is small where r

P^-0.4/(root(0.4*0.6)/n) <-Z

> -qnorm(0.99) -2.326348

Our only remaining task is to find the value of the test statistic and see where it falls relative to the critical value. We can find the number of people admitted and not admitted to the UCB graduate school with the following.

```
> A <- as.data.frame(UCBAdmissions)
> head(A)
Admit Gender Dept Freq
1 Admitted Male A 512
2 Rejected Male A 313
3 Admitted Female A 89
4 Rejected Female A 19
5 Admitted Male B 353
6 Rejected Male B 207
```

10.2. TESTS FOR PROPORTIONS
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```
> xtabs(Freq ~ Admit, data = A)
Admit
Admitted Rejected
1755
2771
```

```
> phat <- 1755/(1755 + 2771)
> (phat - 0.4)/sqrt(0.4 * 0.6/(1755 + 2771))
[1] -1.680919
```