

Calculate the P Value for the test in Problem 2.

```
prop.test(1755, 1755 + 2771, p = 0.4, alternative = "less", conf.level = 0.99, correct = FALSE)
```

p- value i.e. 0.046 is greater than alpha i.e. 0.01

#-----

How do you test the proportions and compare against hypothetical props?

Test Hypothesis: proportion of automatic cars is 40%.

mtcars

```
str(mtcars)
```

```
table(mtcars$am)
```

```
prop.test(13, 32, p = 0.4, alternative = "less", conf.level = 0.95, correct = FALSE)
```

At confidence level of 0.95, since p- value is greater than alpha,

we fail to reject the null hypothesis

```
> prop.test(1755, 1755 + 2771, p = 0.4, alternative = "less",
+          conf.level = 0.99, correct = FALSE)

1-sample proportions test without continuity correction

data: 1755 out of 1755 + 2771, null probability 0.4
X-squared = 2.8255, df = 1, p-value = 0.04639
alternative hypothesis: true p is less than 0.4
99 percent confidence interval:
 0.0000000 0.4047326
sample estimates:
           p 
0.3877596
```

```
> table(mtcars$am)

 0  1
19 13
> prop.test(13, 32, p = 0.4, alternative = "less",
+           conf.level = 0.95, correct = FALSE)

      1-sample proportions test without continuity correction

data:  13 out of 32, null probability 0.4
X-squared = 0.0052083, df = 1, p-value = 0.5288
alternative hypothesis: true p is less than 0.4
95 percent confidence interval:
 0.0000000 0.5508812
sample estimates:
              p
0.40625
```