

Question 4

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Test whether average sleep duration vary significantly across different genders.

Hypotheses

Null Hypothesis H0 - All genders have the same average sleep duration.

Alternative Hypothesis H1 - At least one gender has a different average sleep duration.

```
SleepCogStudy <- read.csv("Resources/Sleep_Cognition_Study_f1PhaXA.csv")
```

```
sleepDurGender <- SleepCogStudy[SleepCogStudy$Gender %in% c("Male", "Female"), ]
```

```
t.test(AverageSleepDuration ~ Gender, data = sleepDurGender)
```

```
##  
## Welch Two Sample t-test  
##  
## data: AverageSleepDuration by Gender  
## t = -0.26256, df = 268.51, p-value = 0.7931  
## alternative hypothesis: true difference in means between group Female and group Male is not equal to  
## 95 percent confidence interval:  
## -0.2639543 0.2018368  
## sample estimates:  
## mean in group Female mean in group Male  
## 6.954883 6.985942
```

Conclusion

As the p value is greater than 0.05 we prove the Null Hypothesis that all genders have the same average sleep duration.