Hypothesis Testing

Null and Alternative Hypothesis H0 - There is no difference in mean performance during the memory assessment between the groups of people who are Amyloid Positive in comparison to people who are Amyloid Negative H1 - There is a difference in mean performance during the memory assessment between the groups of people who are Amyloid Positive in comparison to people who are Amyloid Negative

Created a data frame using Pandas on python

```
data <- read.csv("/Users/trungdao/Desktop/Calculated.csv")
```

Performed a two sample t-test at a 95% confidence interval

```
t.test(data$aPositive, data$aNegative)
```

```
##
##  Welch Two Sample t-test
##
## data:  data$aPositive and data$aNegative
## t = -4.3643, df = 437.1, p-value = 1.593e-05
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -2.981038 -1.129785
## sample estimates:
## mean of x mean of y
##  5.255700  7.311111
```

```
#aPositive - Group who are Amyloid positive
#aNegative - Group who are Amyloid negative
```

Since our p-value is 1.593e-5 which is well less than 0.05 we reject the null hypothesis and conclude that the data has provided enough evidence in favor of the alternative that there is a significant difference in the mean performance during the memory assessment between the groups of people who are Amyloid postive in comparison to people who are Amyloid negative and we are 95% confident that the true proportion is captured in our interval.