Hypothesis Testing- LabTAT

```
> ## Normality Test ##
> ad.test(Laboratory.1)

        Anderson-Darling normality test

data:  Laboratory.1
A = 0.31823, p-value = 0.5322

> ad.test(Laboratory.2)

        Anderson-Darling normality test

data:  Laboratory.2
A = 0.2519, p-value = 0.7331

> ad.test(Laboratory.3)

        Anderson-Darling normality test

data:  Laboratory.3
A = 0.30013, p-value = 0.5768

> ad.test(Laboratory.4)

        Anderson-Darling normality test

data:  Laboratory.4
A = 0.37038, p-value = 0.4194
```

All four data set are normally distributed as P-value of all is > 0.05

Test for equal Variance

```
> leveneTest(Stacked_Data$values,Stacked_Data$ind,data = Stacked_Data)
Levene's Test for Homogeneity of Variance (center = median: Stacked_Data)
      Df F value  Pr(>F)
group  3  2.5996 0.05161 .476
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

#### One-way ANOVA ####
> Anova_results <- aov(values~ind,data = Stacked_Data)
> summary(Anova_results)
             Df Sum Sq Mean Sq F value Pr(>F)
ind           3  79979   26660   118.7 <2e-16 ***
Residuals   476 106905     225
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

P-value is 2e-16 < 0.05 so rejecting Ho and accepting Ha. There is significant difference between the mean TAT values of 4 different laboratories.