Assumption of Normal Distribution



Interpretation:

1. The box plot shows that the distribution of GPA of sophmores is slightly left skewed and that of juniors is almost symmetrical. Both dsitributions do not violate the test assumptioooon that distribution of

Each sample is normal, which is also confirmed by graph of histogram of individual data sets.





Descriptive Statistics

Descriptive Statistics

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sample | N | Mean | StDev | SE Mean |
| Sophomores | 17 | 2.840 | 0.520 | 0.13 |
| Juniors | 13 | 2.981 | 0.309 | 0.086 |

Hypothesis

Method

|  |
| --- |
| μ₁: mean of Sophomores |
| µ₂: mean of Juniors |
| Difference: μ₁ - µ₂ |

*Equal variances are assumed for this analysis.*

Test

|  |  |
| --- | --- |
| Null hypothesis | H₀: μ₁ - µ₂ = 0(Mean GPA of two groups area same) |
| Alternative hypothesis | H₁: μ₁ - µ₂ ≠ 0(Mean GPA of two groups are not same) |

|  |  |  |
| --- | --- | --- |
| T-Value | DF | P-Value |
| -0.86 | 28 | 0.395 |

Estimation for Difference

|  |  |  |
| --- | --- | --- |
| Difference | Pooled StDev | 95% CI for Difference |
| -0.141 | 0.442 | (-0.474, 0.193) |

Conlcusio:

Since p value of the test is 0.395 is greater than the significance probability(0.05), we accept null hypothesis that there is no significant difference in the average gpa of two groups I,ei sophmores and juniors.