Descriptive Statistics

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | N | StDev | Variance | 95% CI for σ |
| Instrument A | 9 | 0.104 | 0.011 | (0.070, 0.199) |
| Instruction B | 9 | 0.112 | 0.012 | (0.075, 0.214) |

Ratio of Standard Deviations

|  |  |
| --- | --- |
| Estimated Ratio | 95% CI for Ratio using F |
| 0.931228 | (0.442, 1.961) |

Method

|  |
| --- |
| σ₁: standard deviation of Instrument A |
| σ₂: standard deviation of Instruction B |
| Ratio: σ₁/σ₂ |
| F method was used. This method is accurate for normal data only. |

Test

|  |  |
| --- | --- |
| Null hypothesis | H₀: σ₁ / σ₂ = 1 |
| Alternative hypothesis | H₁: σ₁ / σ₂ ≠ 1 |
| Significance level | α = 0.05 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Method | Test Statistic | DF1 | DF2 | P-Value |
| F | 0.87 | 8 | 8 | 0.845 |





Conclusion:

1. Thhe box plot and histogram shows that the distribution of 1st ssample is almost symmetrical but the distribution of 2nd sample is left skewed
2. The box plot shows that vvariablilty offffffffffffffffffff 2 distrubiotns are amos tame, which need to confirm using the test
3. Th e p-valle (0.845) of F test is way grater that signifance probability (0.05), we do not reject the null yhpothesis at 5% level o fsignificance
4. Thhe test result shows that the 2 instruments yield measurements having same variability i…e they are equally reliable