|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| F-Test Two-Sample for Variances (Local Average Data Set 1) | | | | |
|  |  |  |  |  |
|  | *1C* | *1B* |  |  |
| Mean | -0.72363 | -1.32231 |  |  |
| Variance | 0.062734 | 0.006893 |  |  |
| Observations | 30 | 30 |  |  |
| df | 29 | 29 |  |  |
| F | 9.10076 |  |  |  |
| P(F<=f) one-tail | 2.91E-08 |  |  |  |
| F Critical one-tail | 1.860811 |  |  |  |
| mean(1C) > mean(1B) and F > F Criticial -> unequal variance | | | | |

|  |  |  |
| --- | --- | --- |
| t-Test: Two-Sample Assuming Unequal Variances (Local Best Data Set 1) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -0.72363 | -1.32231 |
| Variance | 0.062734 | 0.006893 |
| Observations | 30 | 30 |
| Hypothesized Mean Difference | 0 |  |
| df | 35 |  |
| t Stat | 12.42699 |  |
| P(T<=t) one-tail | 1.08E-14 |  |
| t Critical one-tail | 1.689572 |  |
| P(T<=t) two-tail | 2.16E-14 |  |
| t Critical two-tail | 2.030108 |  |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm

|  |  |  |  |
| --- | --- | --- | --- |
| F-Test Two-Sample for Variances (Local Best Data Set 1) | | | |
|  |  |  |  |
|  | *1C* | *1B* |  |
| Mean | -0.72253 | -1.32061 |  |
| Variance | 0.062903 | 0.006705 |  |
| Observations | 30 | 30 |  |
| df | 29 | 29 |  |
| F | 9.382143 |  |  |
| P(F<=f) one-tail | 2.03E-08 |  |  |
| F Critical one-tail | 1.860811 |  |  |
| mean(1C) > mean(1B) and F > F Criticial -> unequal variance | | | |

|  |  |  |
| --- | --- | --- |
| t-Test: Two-Sample Assuming Unequal Variances (Local Best Data Set 1 | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -0.72253 | -1.32061 |
| Variance | 0.062903 | 0.006705 |
| Observations | 30 | 30 |
| Hypothesized Mean Difference | 0 |  |
| df | 35 |  |
| t Stat | 12.41624 |  |
| P(T<=t) one-tail | 1.11E-14 |  |
| t Critical one-tail | 1.689572 |  |
| P(T<=t) two-tail | 2.21E-14 |  |
| t Critical two-tail | 2.030108 |  |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm

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| --- | --- | --- | --- | --- | --- | --- |
| F-Test Two-Sample for Variances (Local Average Data Set 2) | | | | | | |
|  |  | | |  | |  |
|  | *1C* | | | *1B* | |  |
| Mean | -2.72442 | | | -3.76113 | |  |
| Variance | 0.061492 | | | 0.011713 | |  |
| Observations | 30 | | | 30 | |  |
| df | 29 | | | 29 | |  |
| F | 5.249977 | | |  | |  |
| P(F<=f) one-tail | 1.29E-05 | | |  | |  |
| F Critical one-tail | 1.860811 | | |  | |  |
| mean(1C) > mean(1B) and F > F Criticial -> unequal variance | | | | | | |
| t-Test: Two-Sample Assuming Unequal Variances (Local Average Data Set 2 | | | | | | |
|  | |  |  | |
|  | | *1C* | *1B* | |
| Mean | | -2.72442 | -3.76113 | |
| Variance | | 0.061492 | 0.011713 | |
| Observations | | 30 | 30 | |
| Hypothesized Mean Difference | | 0 |  | |
| df | | 40 |  | |
| t Stat | | 20.98705 |  | |
| P(T<=t) one-tail | | 1.67E-23 |  | |
| t Critical one-tail | | 1.683851 |  | |
| P(T<=t) two-tail | | 3.34E-23 |  | |
| t Critical two-tail | | 2.021075 |  | |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm

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| --- | --- | --- |
| F-Test Two-Sample for Variances (Local Best Data Set 2) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -2.72065 | -3.76113 |
| Variance | 0.06142 | 0.011713 |
| Observations | 30 | 30 |
| df | 29 | 29 |
| F | 5.24386 |  |
| P(F<=f) one-tail | 1.3E-05 |  |
| F Critical one-tail | 1.860811 |  |
| mean(1C) > mean(1B) and F > F Criticial -> unequal variance | | |

|  |  |  |
| --- | --- | --- |
| t-Test: Two-Sample Assuming Unequal Variances (Local Best Data Set 2) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -2.72065 | -3.76113 |
| Variance | 0.06142 | 0.011713 |
| Observations | 30 | 30 |
| Hypothesized Mean Difference | 0 |  |
| df | 40 |  |
| t Stat | 21.07377 |  |
| P(T<=t) one-tail | 1.44E-23 |  |
| t Critical one-tail | 1.683851 |  |
| P(T<=t) two-tail | 2.87E-23 |  |
| t Critical two-tail | 2.021075 |  |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm

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| --- | --- | --- |
| F-Test Two-Sample for Variances (Local Average Data Set 3) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -4.41242 | -5.44063 |
| Variance | 0.002362 | 0.010012 |
| Observations | 30 | 30 |
| df | 29 | 29 |
| F | 0.235953 |  |
| P(F<=f) one-tail | 0.000105 |  |
| F Critical one-tail | 0.5374 |  |
| mean(1C) > mean(1B) and F < F Criticial -> equal variance | | |

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| --- | --- | --- |
| t-Test: Two-Sample Assuming Equal Variances (Local Average Data Set 3 | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -4.41242 | -5.44063 |
| Variance | 0.002362 | 0.010012 |
| Observations | 30 | 30 |
| Pooled Variance | 0.006187 |  |
| Hypothesized Mean Difference | 0 |  |
| df | 58 |  |
| t Stat | 50.6267 |  |
| P(T<=t) one-tail | 5.32E-50 |  |
| t Critical one-tail | 1.671553 |  |
| P(T<=t) two-tail | 1.06E-49 |  |
| t Critical two-tail | 2.001717 |  |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm

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| --- | --- | --- |
| F-Test Two-Sample for Variances (Local Best Data Set 3) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -4.39309 | -5.43262 |
| Variance | 0.007981 | 0.009747 |
| Observations | 30 | 30 |
| df | 29 | 29 |
| F | 0.818861 |  |
| P(F<=f) one-tail | 0.297006 |  |
| F Critical one-tail | 0.5374 |  |
| mean(1C) > mean(1B) and F > F Criticial -> unequal variance | | |

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| --- | --- | --- |
| t-Test: Two-Sample Assuming Unequal Variances(Local Best Data Set 3) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -4.39309 | -5.43262 |
| Variance | 0.007981 | 0.009747 |
| Observations | 30 | 30 |
| Hypothesized Mean Difference | 0 |  |
| df | 57 |  |
| t Stat | 42.7623 |  |
| P(T<=t) one-tail | 2.63E-45 |  |
| t Critical one-tail | 1.672029 |  |
| P(T<=t) two-tail | 5.25E-45 |  |
| t Critical two-tail | 2.002465 |  |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm

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| --- | --- | --- |
| F-Test Two-Sample for Variances (Local Average Data Set 4) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -9.39579 | -10.7871 |
| Variance | 0.003979 | 0.006538 |
| Observations | 30 | 30 |
| df | 29 | 29 |
| F | 0.608554 |  |
| P(F<=f) one-tail | 0.093553 |  |
| F Critical one-tail | 0.5374 |  |
| mean(1C) > mean(1B) and F > F Critical -> unequal variance | | |

|  |  |  |
| --- | --- | --- |
| t-Test: Two-Sample Assuming Unequal Variances | | |
|  |  |  |
|  | *Variable 1* | *Variable 2* |
| Mean | -9.39579 | -10.7871 |
| Variance | 0.003979 | 0.006538 |
| Observations | 30 | 30 |
| Hypothesized Mean Difference | 0 |  |
| df | 55 |  |
| t Stat | 74.30852 |  |
| P(T<=t) one-tail | 3.68E-57 |  |
| t Critical one-tail | 1.673034 |  |
| P(T<=t) two-tail | 7.35E-57 |  |
| t Critical two-tail | 2.004045 |  |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm

|  |  |  |
| --- | --- | --- |
| F-Test Two-Sample for Variances (Local Best Data Set 4) | | |
|  |  |  |
|  | *1C* | *1B* |
| Mean | -9.39187 | -10.7767 |
| Variance | 0.003852 | 0.005988 |
| Observations | 30 | 30 |
| df | 29 | 29 |
| F | 0.643287 |  |
| P(F<=f) one-tail | 0.120399 |  |
| F Critical one-tail | 0.5374 |  |
| mean(1C) > mean(1B) and F > F Critical -> unequal variance | | |

|  |  |  |
| --- | --- | --- |
| t-Test: Two-Sample Assuming Unequal Variances | | |
|  |  |  |
|  | *Variable 1* | *Variable 2* |
| Mean | -9.39187 | -10.7767 |
| Variance | 0.003852 | 0.005988 |
| Observations | 30 | 30 |
| Hypothesized Mean Difference | 0 |  |
| df | 55 |  |
| t Stat | 76.46252 |  |
| P(T<=t) one-tail | 7.75E-58 |  |
| t Critical one-tail | 1.673034 |  |
| P(T<=t) two-tail | 1.55E-57 |  |
| t Critical two-tail | 2.004045 |  |

T Stat > t Critical two-tail -> reject null hypothesis concluding 1C is a better algorithm