P452 - Assignment – 3

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Question-4

Students t-Test

The students t-Test has been done and the results has been tabulated in the table-1.

|  |  |  |
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| **Calculations for Students t-Test** | **Focal Length** | |
| **Shipment A** | **Shipment B** |
| 4.65 | 4.75 |
| 4.84 | 4.79 |
| 4.59 | 4.74 |
| 4.75 | 4.74 |
| 4.63 | 4.77 |
| 4.75 | 4.58 |
| 4.58 | 4.81 |
| 4.82 |  |
| 4.86 |  |
| 4.6 |  |
| 4.77 |  |
| 4.65 |  |
| 4.8 |  |
| **Mean** | 4.714615 | 4.740000 |
| **St Dev** | 0.101293 | 0.075277 |
| **Variance** | 0.010260 | 0.005667 |
| **n** | 13.000000 | 7.000000 |
| **t-Value** | **0.634858601** | |
| **t-test prob** | **0.569400** | |

From the table-1 we can see that the obtained probability is 0.5694 and the t-value is 0.6348. And the degree of freedom is .

Now if we consider the A = 0.05, from the t-table we can see that the corresponding value of t from the table for the is 2.101. The table used can be accessed by [clicking here](https://www.sjsu.edu/faculty/gerstman/StatPrimer/t-table.pdf). Since the value of our t is much less than the in the t-table, we can say the Null hypothesis: *There is no significant difference between the 2 data sets* is accepted. Which means that the 2 data are from the same population.

F-Test

The