Sri Lanka Institute of Information Technology



Lab Submission

Lab sheet 02

**IT24104385**

**Rosa S.S.D**

**Probability and Statistics| IT2120**

B.Sc. (Hons) in Information Technology

|  |  |  |
| --- | --- | --- |
| **Sample** | **Mean** | **Variance** |
| 1 | 2.420000 | 0.2334510 |
| 2 | 2.463333 | 0.2744274 |
| 3 | 2.618333 | 0.2822287 |
| 4 | 2.573333 | 0.3246020 |
| 5 | 2.463333 | 0.2420350 |
| 6 | 2.691667 | 0.3178486 |
| 7 | 2.420000 | 0.2529822 |
| 8 | 2.496667 | 0.2881018 |
| 9 | 2.655000 | 0.2767004 |
| 10 | 2.418333 | 0.1808433 |
| 11 | 2.615000 | 0.2061553 |
| 12 | 2.418333 | 0.3027756 |
| 13 | 2.505000 | 0.2158352 |
| 14 | 2.320000 | 0.1959592 |
| 15 | 2.288333 | 0.1903943 |
| 16 | 2.448333 | 0.3067398 |
| 17 | 2.336667 | 0.1897377 |
| 18 | 2.463333 | 0.2750000 |
| 19 | 2.518333 | 0.1862216 |
| 20 | 2.553333 | 0.2457903 |
| 21 | 2.536667 | 0.2484960 |
| 22 | 2.455000 | 0.2827723 |
| 23 | 2.355000 | 0.2679580 |
| 24 | 2.460000 | 0.2317397 |
| 25 | 2.355000 | 0.2180594 |

|  |  |
| --- | --- |
| **Population Mean** | **2.468** |
| **Population variance** | **0.06395** |
| **Mean of the sample Means** | **2.487** |
| **Variance of the sample Means** | **0.00999** |

1. Calculate the population mean and population standard deviation of the laptop bag weights.

A close-up of a computer screen

Description automatically generated

A close-up of a number

Description automatically generated

2. Draw 25 random samples of size 6 (with replacement) and calculate the sample mean and sample standard deviation for each sample

Given in above table

3. Calculate the mean and standard deviation of the 25 sample means and state the relationship of them with true mean and true standard deviation





