**Assignment 16.1**

# Problem Statement 1:

# You survey households in your area to find the average rent they are paying. Find the standard deviation from the following data:

**$1550, $1700, $900, $850, $1000, $950.**

Answer :

Step1: Find Xi-Mean

Step2: Find (Xi-Mean)2

Step3: Find Sum((Xi-Mean)2

Step4 : Find Sum((Xi-Mean)2)/(n-1)

Step5: Find SQRT(Sum((Xi-Mean)2)/(n-1)) which is standard Deviation.

As per the sample, below is the following :

Mean : $1,158.33

Standard Deviation : $367.99

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Xi (Rent) | Xi - Mean | (Xi-Mean)2 |  |  |
| $1,550.00 | $391.67 | $153,402.78 |  |  |
| $1,700.00 | $541.67 | $293,402.78 |  |  |
| $900.00 | -$258.33 | $66,736.11 |  |  |
| $850.00 | -$308.33 | $95,069.44 |  |  |
| $1,000.00 | -$158.33 | $25,069.44 |  |  |
| $950.00 | -$208.33 | $43,402.78 |  |  |
|  |  | $677,083.33 | $135,416.67 | $367.99 |
|  |  |  |  |  |
| Mean | $1,158.33 |  |  |  |
| Sum((Xi-Mean)2) | $677,083.33 |  |  |  |
| Sum((Xi-Mean)2)/(n-1) | $135,416.67 |  |  |  |
| SQRT(Sum((Xi-Mean)2)/(n-1)) | $367.99 |  |  |  |
| Standard Deviation : | $367.99 |  |  |  |