**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.

**Solution steps**

1. Add up all of the numbers: 850 + 900 + 950 + 1000 + 1550 + 1700 = 6950
2. Square the total, 6950 x 6950 = 48302500
3. Divide the number of items in the data set i.e. 48302500 / 6 = 8050416.666666667
4. Take original set of numbers from **Step 1**, square them individually this time, and add them all (850 x 850) + (900 x 900) + (950 x 950) + (1000 x 1000) + (1550 x 1550) + (1700 x 1700) = 8727500
5. Subtract the amount in **Step 3** from the amount in **Step 4**:

8727500 - 8050416.666666667 = 677083.333333333

1. Subtract 1 from the number of items from data set: 6 - 1 = 5
2. Divide the number in **Step 5** by the number in **Step 6**:

677083.333333333 / 5 = 135416.6666666666

This is the Variance!

1. Take the square root of the number from **Step 7** (the Variance),

sqrt(135416.6666666666) = 367.99003609699355

This is the Standard Deviation!

Hence, the

Variance: 135416.6666666666

Standard Deviation: 367.99003609699355