1. Introduction

This assignment will help you to consolidate the concepts learnt in the session.

2. Problem Statement

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:==

	X	X-mean	(X - mean)	(X - mean)^2
	1550	1158.33	391.67	153405.39
	1700	1158.33	541.67	293406.39
	900	1158.33	-258.33	66734.39
	850	1158.33	-308.33	95067.39
	1000	1158.33	-158.33	25068.39
	950	1158.33	-208.33	43401.39
Sum	6950	6949.98		677083.33

Mean	1158.333	1158.33	1158.33
Variance	677083/6	112847.2	
==Standard Deviation==	Sqr root 112847.2	==335.92==	

==Average rent=== $1550+$1700+ $900+ $850+ $1000+ $950/6 = ==$ 1158.3==

==standard deviation = $335.92==

Problem Statement 2:

Find the variance for the following set of data representing trees in California (heights in feet):

3, 21, 98, 203, 17, 9

ANSWER:

Problem Statement 2:

X	mean	(X - mean)	(X - mean)^2
3	58.5	-55.5	3080.25
21	58.5	-37.5	1406.25
98	58.5	39.5	1560.25
203	58.5	144.5	20880.25
17	58.5	-41.5	1722.25
9	58.5	-49.5	2450.25
Sum	351			31099.50

Mean =	SUM of X/n	58.5
Variance	31099.5/6	5183.25

Problem Statement 3:

In a class on 100 students, 80 students passed in all subjects, 10 failed in one subject, 7 failed in two subjects and 3 failed in three subjects. Find the probability distribution of the variable for number of subjects a student from the given class has failed in.

ANSWER:

Problem Statement 3:

The probability of failing in 0 subjects, P(X=0) = 0.8

The probability of failing in 1 subjects, P(X=1) = 10/100 = 0.1

The probability of failing in 2 subjects, P(X=2) = 7/100= 0.07

The probability of failing in 3 subjects, P(X=3) = 3/100= 0.03

X	0	1	2	3
P(X)	0.8	0.1	0.07	0.03

Note: Solution submitted via github must contain all the detailed steps.