4.5 The rainfall each month in Miami, Florida is shown in the following table. Find **A.** the mean monthly rainfall, **B.** the median monthly rainfall. **C.** the standard deviation **D.** the variance and the **E.** the range.

mon	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
in.	2.0	1.8	2.5	3.7	6.8	7.5	6.5	7.1	9.7	8.0	2.6	1.8

Enter data into L1 then STAT > CALC 1: 1-Var Stats L1

(a) Mean $\bar{x} = \frac{\sum x}{n} = \frac{60}{12} = \boxed{5}$

(b) Median (sorted list)

middle value if n odd

mean of middle two if n even

1.8 1.8 2.0 2.5 2.6 [3.7 6.5] 6.8 7.1 7.5 8.0 9.7

(3.7+6.5)/2 = $\boxed{5.1}$

1-Var Stats
x=5
∑x=60
∑x²=390.42
Sx=2.867054237
σx=2.744995446
n=12
minX=1.8
Q1=2.25
Med=5.1
Q3=7.3
maxX=9.7

(c) Standard Deviation

$$S = \sqrt{\frac{n\sum x^2 - (\sum x)^2}{n(n-1)}} = \sqrt{\frac{(12)(390.42) - (60)^2}{12(11)}} \approx \boxed{2.867}$$

(d) Variance

$S^2 = (2.867054237)^2 \approx 8.22$ VARS 5:Statistics 3: Sx $\boxed{Sx^2}$

(e) Range

RANGE = MAX - MIN = 9.7-1.8 = $\boxed{7.9}$

STUDY: Chapter 2: Section 2.4, 2.5

- Descriptive Statistics