

## DESCRIPTIVE STATISTICS

1. The following data represent the hospitalization stay in days for a random sample from a flue epidemic source: 27, 33, 28, 27, 25, 31, 32, 34, 38, 41, 37, 22, 23, 27, 35, 25, 41, and 30.
  - a. Which is the sample size?
  - b. Compute for the hospitalization stay the following statistics: mean, median, mode, variance, standard deviation and coefficient of variance.
  - c. Based on the value of coefficient of variation specify the homogeneity of the series.
  - d. Compute the quartiles for this series. What can be saying about the symmetry of the data?
  
2. The following data represent the age (in years) at which the infection with HIV was diagnosis on a sample of 27 randomly selected cases:  
39, 50, 26, 45, 71, 51, 33, 40, 40, 51, 66, 63, 55, 36, 57, 41, 61, 47, 44, 48, 59, 42, 54, 47, 53, 54, 47
  - a. Compute with a precision of two decimals the following statistics:(i) median; (ii) mode; (iii) mean; (iv) central value; (v) amplitude; (vi) variation; (viii) coefficient of variation; (vii) standard deviation.
  - b. How many observation will be contain in the following ranges:
    - i.  $\bar{X} \pm 1 \cdot s$
    - ii.  $\bar{X} \pm 2 \cdot s$
    - iii.  $\bar{X} \pm 3 \cdot s$
  - c. Specify the level of homogeneity (or heterogeneity) of the sample.
  - d. Assess the symmetry of distribution of data using quartiles.
  
3. Compute the following statistics for the sample of days of incubation:  
7, 3, 5, 7, 10, 6, 8, 4, 5, 3, 7, 6, 5, 4, 8, 8, 7, 10, 12, 3, 2, 5, 6, 7, 8.
  - a. Mean
  - b. Median
  - c. Mode
  - d. Amplitude
  - e. Standard deviation
  - f. Standard error
  - g. Coefficient of variation. Give the interpretation of the obtained value.
  - h.  $Q_1$  (25),  $Q_2$  (50),  $Q_3$  (75).