PRACTICE UNIT 4. DESCRIBING UNIVARIATE DATA WITH NUMERICAL

MEASURES: LOCATION MEASURES

OBJECTIVES

The objectives of this practice are:

- Handle data obtained in a survey.

- Handle big amounts of data and learn some basic statistical functions available in Excel.

- Remember how to present data using frequency tables and graphs.

- Calculation of location measures to describe data.

DATA

We are going to work with the data sets already employed in the practice of Unit 3. The associated frequency distributions and graphic presentations obtained in that practice are included in the corresponding sheets.

PART A. UNIVARIATE DESCRIPTIVE ANALYSIS FROM THE FREQUENCY DISTRIBUTION

Exercise U4_A1. (Sheet 'A_Place of residence')

a) Using the frequency distribution provided for the variable *Residence* (Place of residence) perform a descriptive study, calculating the appropriate location measures for this variable and interpreting them in the context of the given data.

Exercise U4_A2. (Sheet 'A_Number of siblings')

Using the frequency distribution provided for the variable *Siblings* (Number of siblings):

a) What is the average number of siblings of the students? And the most frequent one?

b) What is the number of siblings (included the student) that 50% of the students have more than?

c) Calculate the values of this variable that limit the middle 50% of the students.

Exercise U4_A3. (Sheet 'A_Height')

Using the frequency distribution provided for the variable *Height* (Height of the student):

a) Calculate the average height for the female and the male students separately. Interpret and comment the results.

b) Using the previous values, obtain the average height of all the students (male and female). Also obtain the average height of all the students directly. Compare the results.

c) Calculate the modal height for the female and the male students separately.

d) What is the height that 10% of the female students have more than? And that of the male students?

Exercise U4_A4. (*Sheet 'A_Balance'*)

The following table shows the quarterly average balance (in euros) in the bank accounts of 75 clients of a bank branch:

Quarterly average balance (euros)	Number of clients
0-600	10
600-1200	15
1200-1800	35
1800-3000	10
3000-6000	5

a) What is the average quarterly average balance of the bank accounts of those 75 clients?

b) What is the most frequent value of the quarterly average balance for those clients?

c) What is the quarterly average balance that 20% of the clients have more than?

d) The bank has decided to charge a management fee of 20€ per quarter. Calculate again the previous values.

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PART B. UNIVARIATE DESCRIPTIVE ANALYSIS WHEN THE COMPLETE DATA SET IS AVAILABLE

Exercise U4_B1. (Sheet 'B_Place of residence')

   a) Using the values of the variable *Residence* (Place of residence) perform a descriptive study, calculating the appropriate location measures for this variable and interpreting them in the context of the given data.

Exercise U4_B2. (Sheet 'B_Number of siblings')

Using the values of the variable *Siblings* (Number of siblings):

   a) What is the average number of siblings of the students? And the most frequent one?

   b) What is the number of siblings (included the student) that 50% of the students have more than?

   c) Calculate the values of this variable that limit the middle 50% of the students.

Exercise U4_B3. (Sheet 'B_Height')

Using the values of the variable *Height* (Height of the student):

   a) Calculate the average height for the female and the male students separately. Calculate the average height of all the students. Interpret and comment the results.

   b) What is the height that 10% of the female students have more than? And that of the male students?

   c) Compare all these results with those obtained in part A.