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Module: Probability and Statistics (PST)
2nd Year EM, GM

TD : N°1

Exercise 1:

Specify whether these statements are true or false:

1. A characteristic that is studied is called a variable.
2. The task of descriptive statistics is to collect data.
3. The task of descriptive statistics is to present data in the form of tables and graphs.
4. In Statistics, variables are classified according to different types.
5. The values of the variables are also called modalities.
6. For a qualitative variable, each statistical individual can have only one modality.
7. Statistical population refers to a group of human beings.
8. To each individual in a statistical population, we can associate one or more modalities of a character.
9. When the different modalities of a variable are not measurable, it is called a quantitative variable.
10. When the values taken by a statistical individual belong to an interval of values, it is called a continuous statistical variable.
11. Each individual in the population can be associated with one or more characters.

Exercise 2:

For the following study subjects, specify: the statistical unit, the statistical variable, and the study population:

1. Study of the validity time of electric lamps.
2. Study of the absenteeism of workers, in days, in a factory.
3. Distribution of students in a class according to the mention obtained on the Baccalaureate diploma.
4. The diameter of the bolts produced by a machine.
5. The average annual salary of construction workers in Algeria from 1962 to the present.
6. The colors of the cars marketed by Toyota during the year 2013.
7. The sport practiced by each of the students of a school.
8. The number of children per family in a neighborhood.

Exercise 3:

Specify the nature of the following variables: Age, eye color, lifespan, nationality, blood type, height, weight, number of children, municipality of residence, income, speed, marital status, level of education, hair color, place of birth, profit of a company, mother tongue, professional categories, number of rooms in an apartment and age of the inhabitants of a commune.

Exercise 4:

We weigh 50 students in a class, we obtain the results summarized in the following table:

Weight (kg)	[40, 45[[45, 50[[50, 55[[55, 60[[60, 65[[65, 70[[70, 80[[80, 100]
Number of students	8	3	7	7	10	5	6	4

1. Identify the population and statistical unit.
2. Specify the type and nature of the weight variable.

Exercise 5:

Specify the nature of the variable in each of the following examples:

1. The number of children in a family.
2. The time of entry into the factory of a worker.
3. The yield (rendement) of one hectare of wheat (blé).
4. The marital status of an individual (single, married, divorced, widowed).
5. The level of students in a class can be: Excellent, very good, good, medium, low.
6. The lengths of 1000 screws (vis) of a production.
7. The temperature recorded each day in any city

Exercise 6:

A survey of a group of students on the number of books that each of them read during the summer holidays gave the following results:

Karim (1); Bilal (02); Ibrahim (03); Souad (05); Dounia (05); Nawal (00); Malik (02); Reda (01); Hamid (03); Omar (0a); Islam (01); Hanane (02); Farid (02); Rachid (03); Zahra(01); Ines (05); Mohamed (00); Khaled (1); Juba (02); Ralik (01); Dihia (03); Khalil (01); Kamel (02); Toufik (02); Djamel (03); Mahdi (01); Nesma (02); Samir (01); Amar (00); Fatiha (02).

1. What is the character studied? specify its nature.
2. What are the different modalities of character.
3. Building the statistical table.