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

Worksheet : N°5

Exercise 1:

The number of children per family was studied on a sample of 200 families, the results obtained are given in the following table:

Number of children	0	1	2	3	4
Number of families	20	60	40	50	30

1. What is the population, the variable and its nature?
2. Draw the diagram corresponding to this variable and plot the polygon of counts.
3. Determine the mode.
4. Draw the cumulative curve of frequencies.
5. Determine the median graphically and by calculation.
6. Calculate the different quartiles analytically and graphically?
7. Calculate mean, variance, and standard deviation.

Exercise 2:

In a company, the monthly salaries (in thousands) of 300 employees are given in the following table:

Classes	[10-20[	[20-30[	[30-40[	[40-60]
Counts x10^3	40	60	150	50

1. Draw the diagram corresponding to this variable and plot the polygon of frequencies.
2. Draw the cumulative curve of frequencies.
3. Determine the modal class and then the mode graphically and by calculation.
4. Determine the mean, variance, and the standard deviation.
5. Calculate the different quartiles.
6. Give the proportion of employees with a salary between 18000 and 32000 DA.