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Subject: Biostatistics.
Exercise series No:3
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Exercise 1 In a family, the probability of a child being left-handed is: $\frac{1}{5}$. It is known that this family has 9 children.

- What probability low does the random variable X (number of left-handed children) follow? - What is the probability of having exactly 2 left-handed children in this family? - What is the probability of having at least 2 left-handed children? - Determine E(X), V(X), and the standard deviation δ_X.

Exercise 2 On a highway, there is an average of two accidents in week. Let X be the number of accidents in week.

- What probability low does the random variable X follow? - What is the probability of having five accidents during a weekend? - What is the probability of having at most 3 accidents? - Determine E(X), V(X), and the standard deviation δ_X.

Exercise 3 A researcher studied the average age at which children's first words appear. A study conducted with a thousand children shows that the first words appear, on average, at 2 months old, with a standard deviation of 1.5 months. Given that the age distribution is normal, we want to:

- Evaluate the proportion of children who said their first words before 5 months. - Evaluate the proportion of children who said their first words after 6 months. - Evaluate the proportion of children who said their first words between 3 and 5 months.