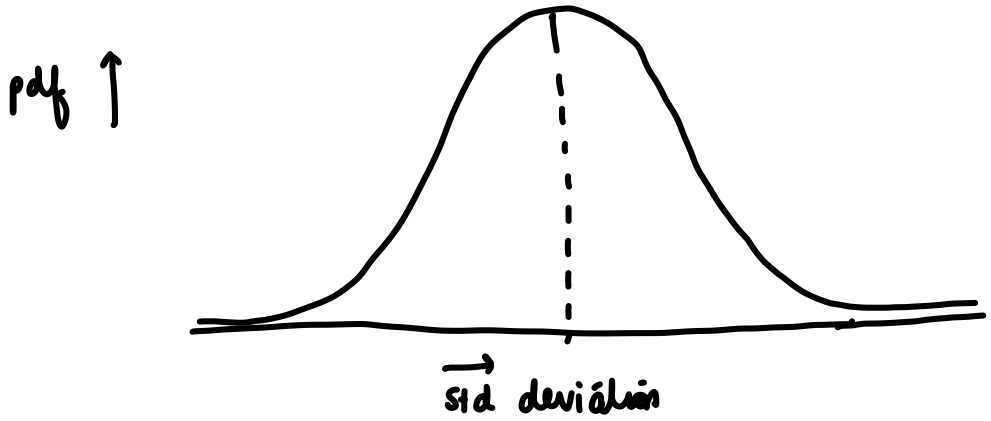
1. **The Normal Distribution:**
   The normal distribution, (a.k.a Gaussian distribution), is a bell-shaped curve that is symmetric around its mean (average). In a normal distribution, the majority of the data falls near the mean, and the probabilities for values further away from the mean decrease symmetrically in both directions. It looks something like this:



2. **Summation:**
   Summation refers to the process of adding together a sequence of numbers. It's denoted by the symbol Σ (sigma).

$$\sum_{i=1}^{10} i = 1+2+3+\ldots+10$$

3. **Variance:** σ
   Variance measures how much the values in a dataset vary from the mean. It is the average of the squared differences from the mean.

4. **Standard Deviation:** σ^2
   The standard deviation measures the dispersion or spread of a set of values around its mean. A low standard deviation means that the values are close to the mean, while a high standard deviation means that the values are spread out over a wider range. It can be calculated as:

5. **P-values:**
   P-values are a measure of the strength of evidence against the null hypothesis in statistical hypothesis testing. They assess the probability of observing the data, or something more extreme, under the assumption that the null hypothesis is true. A lower p-value suggests stronger evidence against the null hypothesis, often leading to its rejection. A high p-value only tells us “we fail to reject the null hypothesis” i.e. does not tell us we can accept it.

6. **Concept of Fitting a Model to Data Points:**
   Fitting a model to data points involves finding a mathematical function or relationship that best describes the observed data.

7. **Regression:**
   Regression analysis is a statistical method used to explore the relationship between a dependent variable (often denoted as Y) and one or more independent variables (often denoted as X). It can be used to predict the value of the dependent variable based on the values of the independent variables.

8. **Intercept:**
   The intercept represents the value of the dependent variable when all independent variables are set to zero. It's the point where the regression line intersects the y-axis on a graph.