

- Setting up and testing hypothesis is an integral part of statistical inference.
- According to Karl Popper, a hypothesis must be falsifiable and that a proposition or theory can not be called scientific if it does not admit the possibility of being shown false.
- A hypothesis is a statement or assumption concerning a population. For the purpose of decision making a hypothesis has to be verified and then accepted or rejected. The sample data enable us to accept or reject the hypothesis. The procedure enables us to decide whether the hypothesis is to be accepted or rejected is called Hypothesis testing or Test of significance.
- A Null hypothesis is ^{statement} which provide evidence against hypothesized statement and ^{will be} proved by testing it, denoted by "H₀". A Null hypothesis is accepted, in case of $p \leq 0.05$ or highly significant when $p \leq 0.001$, otherwise rejected.
- An alternative hypothesis is a statement which is hypothesized and proved by testing it, when "H₀" is rejected. The level of significance depend on magnitude and reliability of the statement. It is denoted by "H_a".
- In some hypothesis, "null relationship" and "alternate relation" can be equally probable and true. In such hypothesis, it is not denoted by "H₀" or "H_a". For example: skulls are found at the ancient site, all