DECISION MAKING RULES

OBSERVED

	T	F
T	95 %. $1-\alpha$ Confidence	5 %. 'α' RISK producer risk TYPE – I – Error
F	10 %. β Consumer risk TYPE – II – Error	90 %. $1-\beta$ Descriminating Power

ACTUAL

→ α %. be an agreement lies between Manufacturer & Consumer

→ In Real time, we will fix 'α' and take the decision.

→ Can I keep $\alpha = 0$%. → we should not believe blindly.
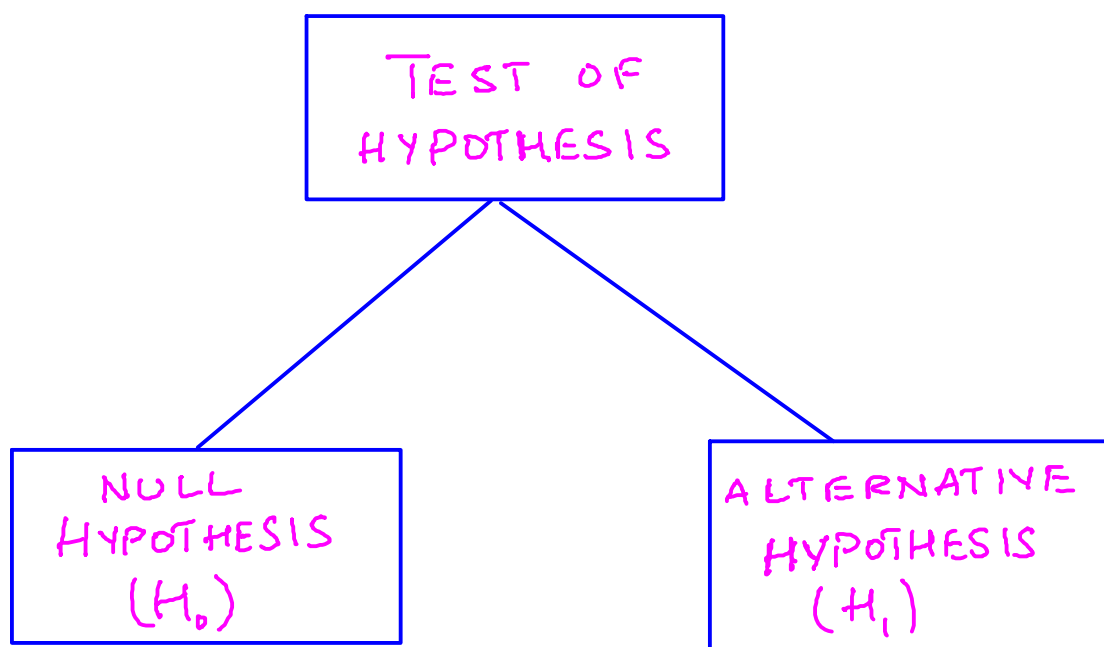
  ↳ It may leads quality issues as well.

→ If $\alpha = 0$, parallelly 'β' increases $\alpha \downarrow \beta \uparrow$

If alpha = 0 means, Consumer is ready to accept all the products which ever is sending by your producer.
So, parallelly Producer will Get a negligence towards their consumer chances of getting faulty products increases
i.e Beta values increases

→ If $\beta = 0$, parallelly 'α' increases $\beta \downarrow \alpha \uparrow$

If Beta = 0 means, Consumer is not ready to accept any one product at least if something goes wrong while
Manufacturing so parallelly Alpha gets increases that means instead of 5 percent rejection he will do more rejection
Than agreed.

→ In any industries, generally α = either 1%, 5%, 10%

→ In pharamaceutical industries α=10%.

→ Goods to NASA $\longrightarrow$ α = 20%.

→ You need to interpret mentioning as how much value of α you have choosed.

TEST OF
HYPOTHESIS

NULL
HYPOTHESIS
(H_0)

ALTERNATIVE
HYPOTHESIS
(H_1)

H_0:	Opposite of H_1
H_1:	what we want to demonstrate by collecting the data

STEPS FOR TEST OF HYPOTHESIS

1. **Frame the Test of Hypothesis Null (Ho), Alternative(H1)**
2. **Collect the Data in favour of H1**
3. **Define alpha α = 5%**
4. **Calculated Tabulated Value for Z tab, T tab, chi square tab**
5. **Calculate the z values according to the scenario**
6. $zcalc = \dfrac{x\,bar - \mu}{\frac{sigma}{\sqrt{n}}}, \ Tcalc = \dfrac{x\,bar - \mu}{\frac{sigma}{\sqrt{n}}}, \ \ ^2calc = \dfrac{(n-1)s2}{^\delta 2}$
7. **Draw the picture and take decision**
8. **If my Zcal is falling under Critical region, then reject the Null hypothesis.**
9. **If my Zcal is falling under Accepted region then accept the Null hypothesis.**
10. **For any one sided Test if alpha = 5% then Z tab = 1.65.**
11. **For Two sided Test if alpha = 5 % then Z tab =1.96 on both sides.**
12. **If P < α (0.05), Reject Null Hypothesis. Accept Alternative Hypothesis.**

13. If P > α (0.05), Accept Null Hypothesis. Reject Alternative Hypothesis.