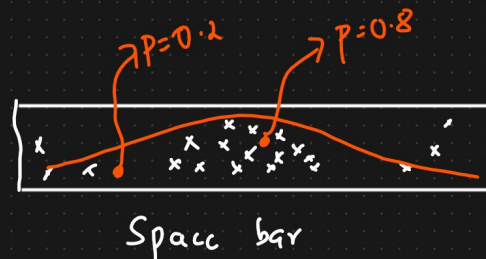


P value

The p value is a number, calculated from a statistical test, that describes **how likely you are to have found a particular set of observations if the null hypothesis were true**. P values are used in hypothesis testing to help decide whether to reject the null hypothesis.



Out of 100 touches, we touch around 20 times in this region

Hypothesis Testing

Eg: Coin is Fair or Not {100 times}

① Null Hypothesis:

H_0 : Coin is fair

$$p(H) = 0.5 \quad p(T) = 0.5$$

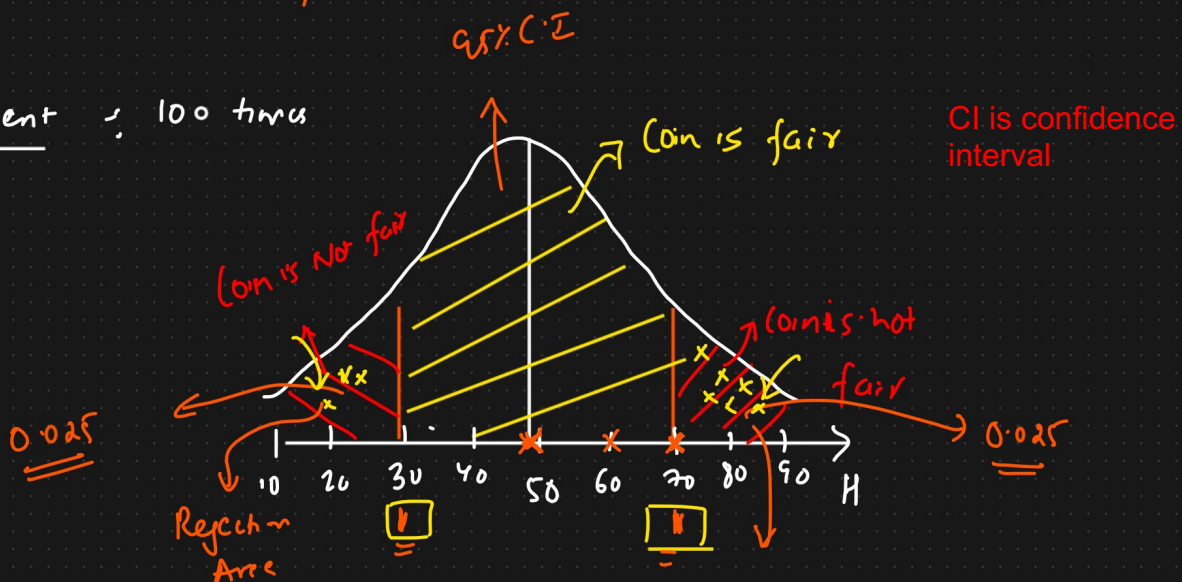
$$p(H) = 0.6 \quad p(T) = 0.4$$

$$p(H) = 0.7 \quad p(T) = 0.3$$

② Alternate Hypothesis:

H_1 : Coin is not fair

③ Experiment: 100 times



④ Significance Value: $\alpha = 0.05$

$$C.I = 1 - 0.05 = 0.95$$

⑤ Conclusion

$p < \text{Significance value}$

suppose $p < \text{Significance Value}$
then reject the null hypothesis (H_0)

Reject the Null Hypothesis

else

Fail to Reject the Null Hypothesis