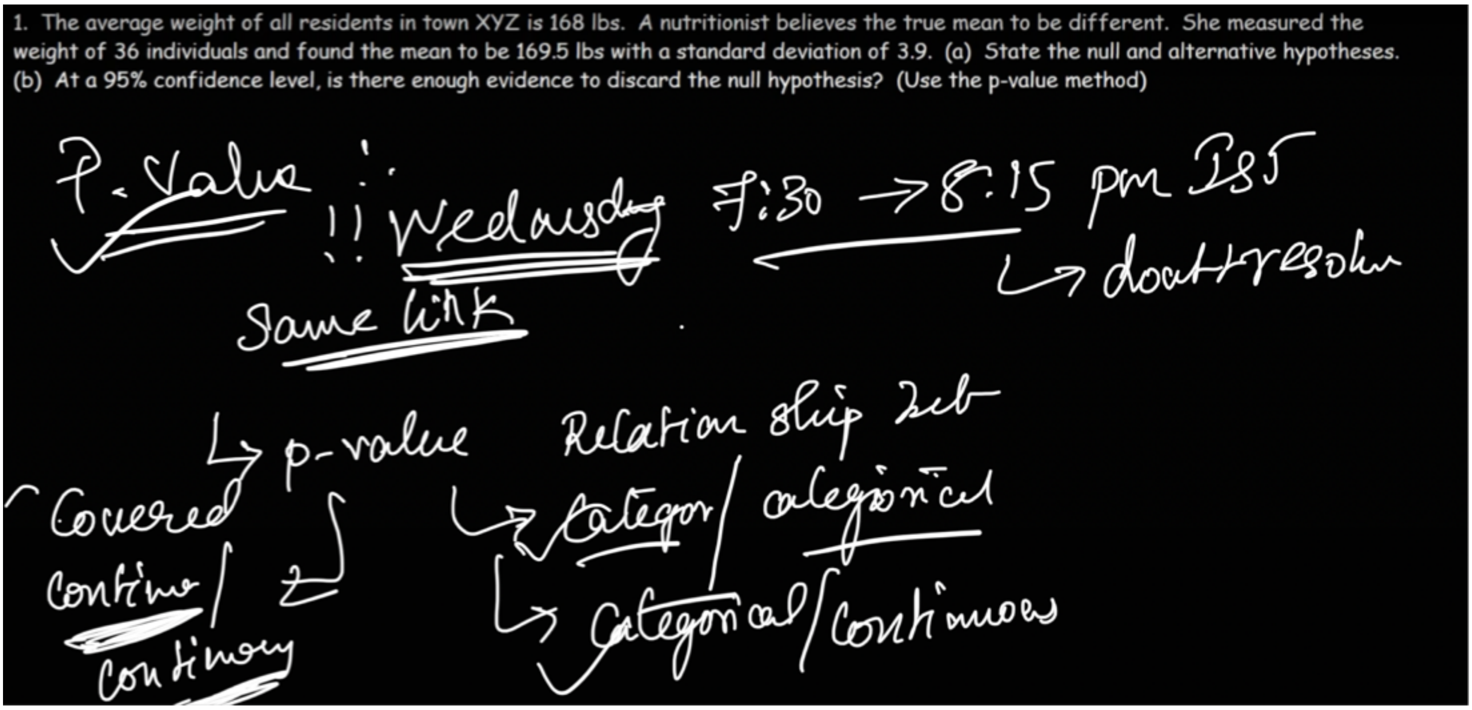
P-value


1. The average weight of all residents in town XYZ is 168 lbs. A nutritionist believes the true mean to be different. She measured the weight of 36 individuals and found the mean to be 169.5 lbs with a standard deviation of 3.9. (a) State the null and alternative hypotheses. (b) At a 95% confidence level, is there enough evidence to discard the null hypothesis? (Use the p-value method)
P-Value
Wednesday 7:30 → 8:15 pm
Same link
p-value
Relationship
Covered
categorical / continuous

↳ Logistic - Regression

Linear Regression → ↳ odds ↳ log(odds)

Sigmoid

↳ How sklearn Logistic Regression

⇒ Hypothesis testing

- H_0 Null hypothesis
- H_A / H_1 Alternate hypo

Problem Given above

$H_0: \mu = 168$

$H_A: \mu \neq 168$

① Avg. ... = 168 lbs = μ

② $n = 36$

② $\bar{x} = 169.5$ / $S = 3.9$

C.I = 95%

Z-table

↑ Sample

t → Z dist

$Z_{test} = \frac{\bar{x} - \mu}{s/\sqrt{n}} = 2.31$

⇒ acceptance region

reject H_0

fail to accept the H_0

P - Probability value find the probability

95% confidence value of the rejection

$\Rightarrow$ 0.05 ~~0.05~~

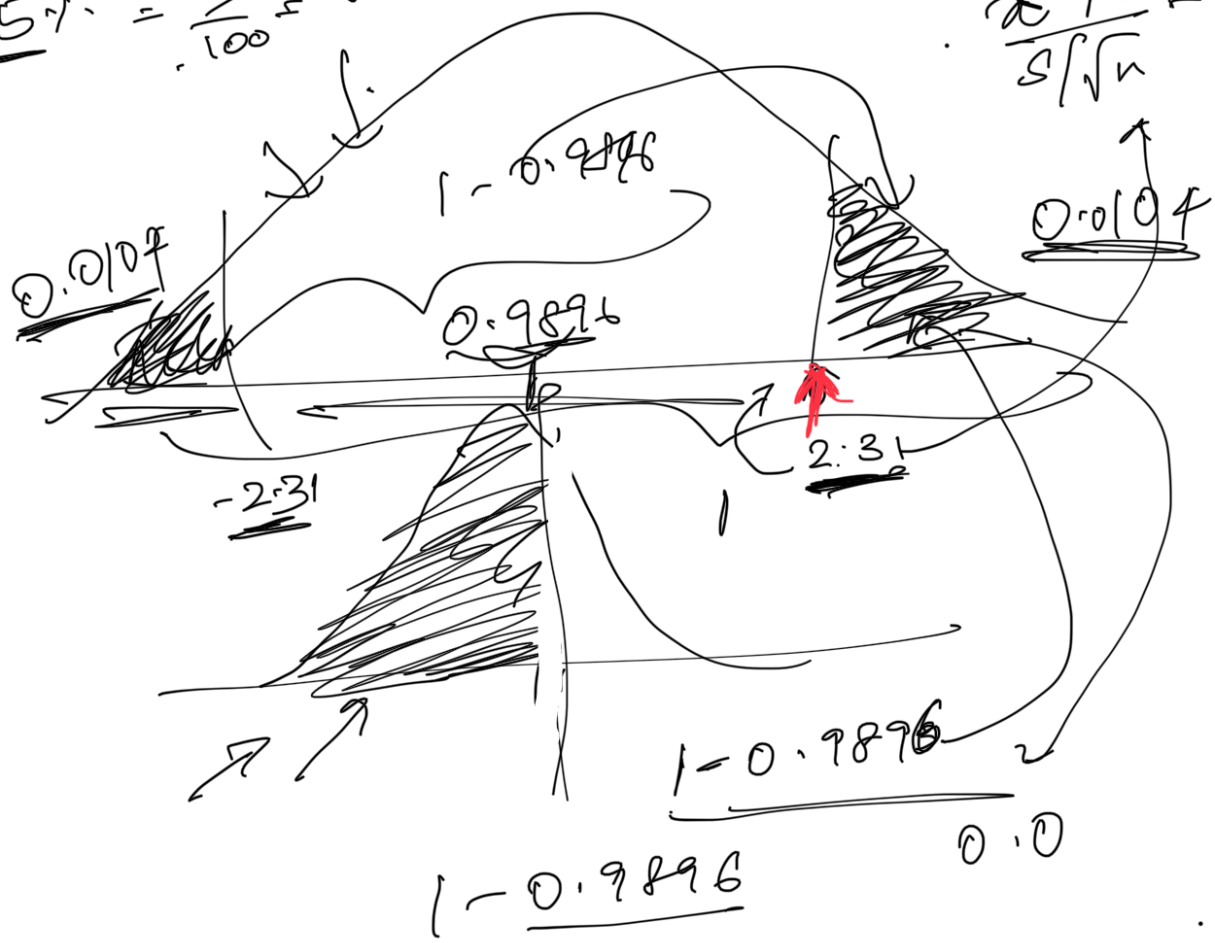
We will have to find the area enclosed by the ~~reg~~ rejection region.

$\rightarrow > / <$

$95\% = 95/100 = 0.95$

$5\% = \frac{5}{100} = 0.05$

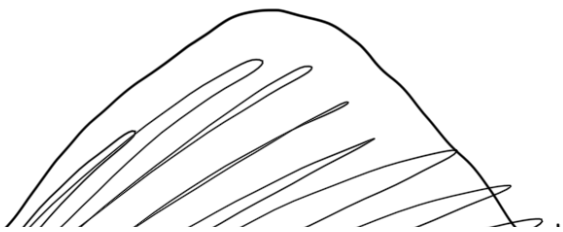
$\frac{\bar{x} - \mu}{s/\sqrt{n}} = z$



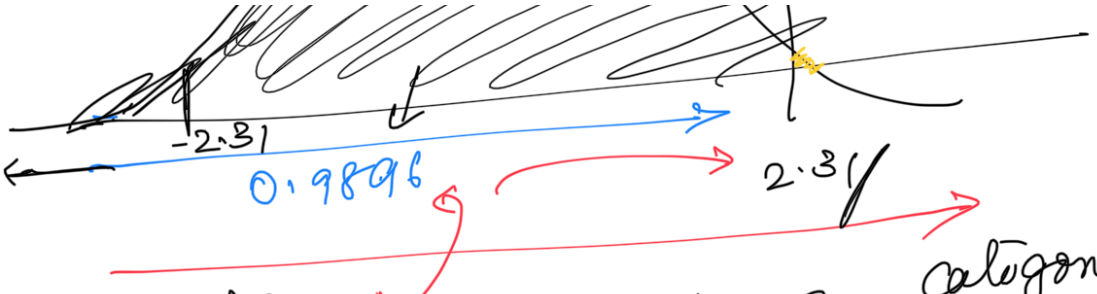
0.0208

p-value $< \alpha$ $\rightarrow$ reject H_0 / fail to accept H_0

p-value $> \alpha$ $\rightarrow$ ~~fail~~ accept H_0 / fail to reject the H_0



P-value.



Not probable

No relationship : H_0

relationship exists : H_A

Categorical / Categori | Chi^2 test

Contingency table

Categorical / Continuous

ANNOVA

f →

p values

$p > 0.05$ →

$p < 0.05$