GENERIC HYPOTHESIS TESTING (aka SIGNIFICANCE TESTING)

STEP 1: Determine null and alternative hypotheses

$_0$: {	≤ = ≥	select one	**Nothing is happening, status quo, equality**
: {	> ≠ <	select the converse of H_0	**Something is happening, change from status quo, inequality**

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H_0: There is not a relationship / association (independence)

Nothing is happening, status quo, independence, no relationship/association

H_a: There is a relationship / association (dependence)

Something is happening, change from status quo, dependence, relationship/association

STEP 2: Verify necessary data conditions/assumptions, and if met, summarize the data into an appropriate test statistic

Test stat: = _

X^2 = _

CONDITIONS / ASSUMPTIONS
Independent random sample(s)
Assumptions regarding - sample sizes, expected counts, SHAPE(S) - symmetry or skewness SPREAD / DISPERSION (variance, outliers)

STEP 3: Assuming the null hypothesis is true, determine degrees of freedom (d.f.) and calculate the p-value

p-value: { ( ) {

< ; − =
≠ ; − = 2 × | | | |
> ; − =

STEP 4: Compare p-value and alpha to determine statistical significance

> { $_0$ (> .05)
( )

≤ { $_0$ (≤ .05)
{ ( )

[illegible]

STEP 5: Report the conclusion in the context of the hypothesized question

Conclusion is based / framed in the context of the alternative hypothesis H_a

There (**is** / **is not**) statistical evidence, at the (**1%, 5%, 10%**) significance level, to support the claim postulated by the alternative hypothesis.