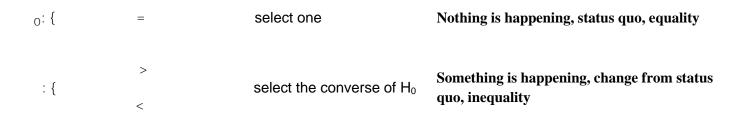
### **GENERIC HYPOTHESIS TESTING (aka SIGNIFICANCE TESTING)**

#### STEP 1: Determine null and alternative hypotheses



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

*H*<sub>a</sub>: There is a relationship / association (dependence)

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

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

 CONDITIONS / ASSUMPTIONS

Independent random sample(s)

Assumptions regarding - sample sizes, expected counts,  ${\sf SHAPE}(S) \text{ - symmetry or skewness}$ 

SPREAD / DISPERSION (variance, outliers)

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

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

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

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

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