* Inductive arguments: Specific to General
* Deductive argument: General to specific

Hypothesis Testing Critical Values

* Normal Distribution critical values:
  + 90%
    - T-cut off: 1.645 (reject null if t is greater than 1.645)
    - P value cut off: 10% (reject null if p values is less than 10%)
  + 95%
    - T-cut off: 1.960 (reject null if t is greater than 1.960)
    - P value cut off: 10% (reject null if p values is less than 5%)
  + 99%
    - T-cut off: 2.576 (reject null if t is greater than 2.576)
    - P value cut off: 1% (reject null if p values is less than 1%)
* gen Treatment = Price == 1.5
  + Create a new column where if price equals 1.5 label it with a 1, if not label it with a 0
* sum Profits if Treatment == 1🡪 use quotes if not an integer
  + Provide summary stats of profits if Treatment equals 1
* twoway scatter Profits Treatment
  + provides a scatter plot with Treatment on X axis and Profits on Y
* regress Y x1 x2
  + Run Regression in Stata
* bysort Price: sum Profits
  + Provide summary stats for profits by the different prices
* Determine T stat through:
  + Reg Y X
  + Ttest Y, by(X) level(90,95,99)
* ci means Outcome if Treatment == 1, level(95)
  + Creates a 95% confidence interval of the outcome if treated
* ttest Outcome, by(treatment)
  + Test null hypothesis that ATE = 0
* cii means 10000 102.1934 .5660383, level(95)
  + find the 95% confidence interval with 10,000 observations, a mean of 102.19, and standard deviation of .566
* ttest Expenditure == 105
  + conduct a t-test to see if a distribution of expenditures has a center of $105
* display binomial(100,19,.25)
  + probability that at least 20 people will buy given a 25% likelihood they will buy and a total of 100 people
  + 20-1=19
* display normal((960-1002.544)/(346.369/sqrt(365)))
  + Answers 🡪 what is the probability that less than 960 customers will visit given a sample mean of 1002.544 and std.dev of 346.37. 365 equals N
* ttesti #obs #mean #sd #val [, level(#)]
  + calculate t stat with fixed numbers also generates a t-stat
* qreg Expenditures Tax
  + absolute deviations regression
* reg Spend PageViews if PageViews < 16
  + run regression with a conditional
* xi: reg Sales Deal i.Day
  + create dummy variable
* xi: reg Profits TaxRate i.State Period
  + create dummy variable for state variable and control for Period