Data Transformation with Stata Cheat Sheet

For more info, see Stata's reference manual (stata.com)

Select parts of data (subsetting)

Select specific columns

drop make
remove the 'make' variable

keep make price
opposite of drop; keep only variables 'make' and 'price'

Filter specific rows

drop if mpg < 20 **drop in** 1/4
drop observations based on a condition (left) or rows 1–4 (right)

keep in 1/30
opposite of drop; keep only rows 1–30

keep if inrange(price, 5000, 10000)
keep values of price between $5,000–$10,000 (inclusive)

keep if inlist(make, "Honda Accord", "Honda Civic", "Subaru"**)**
keep the specified values of make

sample 25
sample 25% of the observations in the dataset (use **set seed** # command for reproducible sampling)

Replace parts of data

Change column names

rename (rep78 foreign**) (**repairRecord carType**)**
rename one or multiple variables

Change row values

replace price = 5000 if price < 5000
replace all values of price that are less than $5,000 with 5000

recode price (0 / 5000 = 5000**)**
change all prices less than 5000 to be $5,000

recode foreign (0 = 2 "US"**)(**1 = 1 "Not US"**), gen(**foreign2**)**
change the values and value labels then store in a new variable, foreign2

Replace missing values

mvdecode _all**, mv(**9999**)** useful for cleaning survey datasets
replace the number 9999 with missing value in all variables

mvencode _all**, mv(**9999**)** useful for exporting data
replace missing values with the number 9999 for all variables

Label data

Value labels map string descriptions to numbers. They allow the underlying data to be numeric (making logical tests simpler) while also connecting the values to human-understandable text.

label define myLabel 0 "US" 1 "Not US"
label values foreign myLabel
define a label and apply it to the values in foreign

label list
list all labels within the dataset

note: data note here
place note in dataset

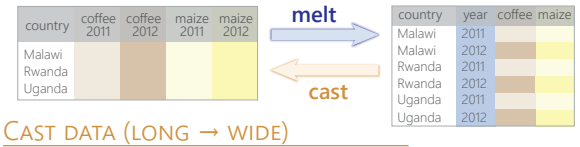
Reshape data

webuse set https://github.com/GeoCenter/StataTraining/raw/master/Day2/Data
webuse "coffeeMaize.dta" load demo dataset

Melt data (wide → long)

reshape variables starting with coffee and maize | unique id variable (key) | create new variable that captures the info in the column names

reshape long coffee@ maize@**, i(**country**) j(**year**)** — new variable
convert a wide dataset to long



Tidy Datasets have each observation in its own row and each variable in its own column.

When datasets are tidy, they have a consistent, standard format that is easier to manipulate and analyze.

Cast data (long → wide)

create new variables named coffee2011, maize2012... | what will be unique id variable (key) | create new variables with the year added to the column name

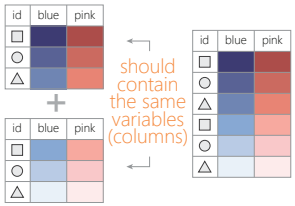
reshape wide coffee maize**, i(**country**) j(**year**)**
convert a long dataset to wide

xpose, clear varname
transpose rows and columns of data, clearing the data and saving old column names as a new variable called "_varname"

Combine data

Adding (appending) new data

see **help frames** for using multiple datasets



webuse coffeeMaize2.dta**, clear**
save coffeeMaize2.dta**, replace**
webuse coffeeMaize.dta**, clear** load demo data

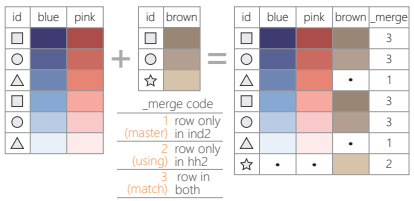
append using "coffeeMaize2.dta"**, gen(**filenum**)**
add observations from "coffeeMaize2.dta" to current data and create variable "filenum" to track the origin of each observation

Merging two datasets together

must contain a common variable (id)

webuse ind_age.dta**, clear**
save ind_age.dta**, replace**
webuse ind_ag.dta**, clear**

merge 1:1 id **using** "ind_age.dta"
one-to-one merge of "ind_age.dta" into the loaded dataset and create variable "_merge" to track the origin



webuse hh2.dta**, clear**
save hh2.dta**, replace**
webuse ind2.dta**, clear**

merge m:1 hid **using** "hh2.dta"
many-to-one merge of "hh2.dta" into the loaded dataset and create variable "_merge" to track the origin

Fuzzy matching: combining two datasets without a common ID

reclink match records from different data sets using probabilistic matching ssc install reclink
jarowinkler create distance measure for similarity between two strings ssc install jarowinkler

Manipulate strings

Get string properties

display length("This string has 29 characters"**)**
return the length of the string

charlist make * user-defined package
display the set of unique characters within a string

display strpos("Stata", "a"**)**
return the position in Stata where a is first found

Find matching strings

display strmatch("123.89", "1??.?9"**)**
return true (1) or false (0) if string matches pattern

display substr("Stata", 3, 5**)**
return string of 5 characters starting with position 3

list make **if regexm(**make, "[0-9]"**)**
list observations where make matches the regular expression (here records that contain a number)

list if regexm(make, "(Cad.|Chev.|Datsun)"**)**
return all observations where make contains "Cad.", "Chev." or "Datsun"

compare the given list against the first word in make

list if inlist(word(make, 1**), "Cad.", "Chev.", "Datsun")**
return all observations where the first word of the make variable contains the listed words

Transform strings

display regexr("My string", "My", "Your"**)**
replace string1 ("My") with string2 ("Your")

replace make **= subinstr(**make, "Cad.", "Cadillac", 1**)**
replace first occurrence of "Cad." with Cadillac in the make variable

display stritrim(" Too much Space"**)**
replace consecutive spaces with a single space

display trim(" leading / trailing spaces "**)**
remove extra spaces before and after a string

display strlower("STATA should not be ALL-CAPS"**)**
change string case; see also **strupper**, **strproper**

display strtoname("1Var name"**)**
convert string to Stata-compatible variable name

display real("100"**)**
convert string to a numeric or missing value

Save & export data

compress
compress data in memory

save "myData.dta"**, replace** Stata 12-compatible file
saveold "myData.dta"**, replace version(12)**
save data in Stata format, replacing the data if a file with same name exists

export excel "myData.xls", /*
*/ **firstrow(variables) replace**
export data as an Excel file (.xls) with the variable names as the first row

export delimited "myData.csv"**, delimiter(",") replace**
export data as a comma-delimited file (.csv)

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inspired by RStudio's awesome Cheat Sheets (rstudio.com/resources/cheatsheets)

geocenter.github.io/StataTraining

updated May 2021