A `diff` Command for Use with Data Files

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Example: Auto data

	make	~~price~~	mpg	rep78	obs
1.	AMC Concord	~~4,099~~	22->24	3	1
2.	AMC Pacer	~~4,749~~	17	3	2
3.	AMC Spirit	~~3,799~~	22	.->2	3
4.	Buick Century	~~4,816~~	20->.	3	4
~~5.~~	~~Buick Electra~~	~~7,827~~	~~15~~	~~4~~	
etc.					
75.	Volvo 240DL Wagon		18	5	75

New command: updatedata

```
. sysuse auto
(1978 Automobile Data)

. updatedata (make) using modified_auto, detail

master: 74 obs, using: 74 obs, matched: 73 obs
+ 1 obs
- 1 obs

price: dropped
mpg: 1 changes, 0 miss -> nonmiss, 1 nonmiss -> miss
     obs 1 (make = "AMC Concord") 22 -> 24
     obs 4 (make = "Buick Century") 20 -> .
rep78: 0 changes, 1 miss -> nonmiss, 0 nonmiss -> miss
       obs 3 (make = "AMC Spirit") . -> 2
headroom: identical
trunk: identical
...

obs: added
```

updatedata (cont.)

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- Useful in several contexts
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  - multiple spreadsheets
  - double data entry (verification)

Application to large-scale data management

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- Several Genetic Research Centers (GRCs)
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- Data Coordinating Center (DCC), responsible for:
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  - Maintaining central, up-to-date database

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  - pedigree ID and individual ID
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  - repository "K" number
  - central Consortium ID

Problems with multiple identifiers

master

	id1	id2
1.	1	a
2.	2	b
3.	3	c
4.		c
5.	4	d
6.		e

using

	id1	id2
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4.	3	c
5.	4	f
6.	5	
7.	6	g
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- possible duplicate

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  - apply and track changes

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Two extensions:

- Multiple identifiers
- do-file "patch" (automatically generated)
  - apply and track changes
  - receipt

Full syntax

```
updatedata (id1) (id2) (...) [varlist] using <filename>,
    [dofile(<dofilename>) addobs dropobs addvars dropvars
    set2miss detail]
```

Storing dataset containing numeric and string vars

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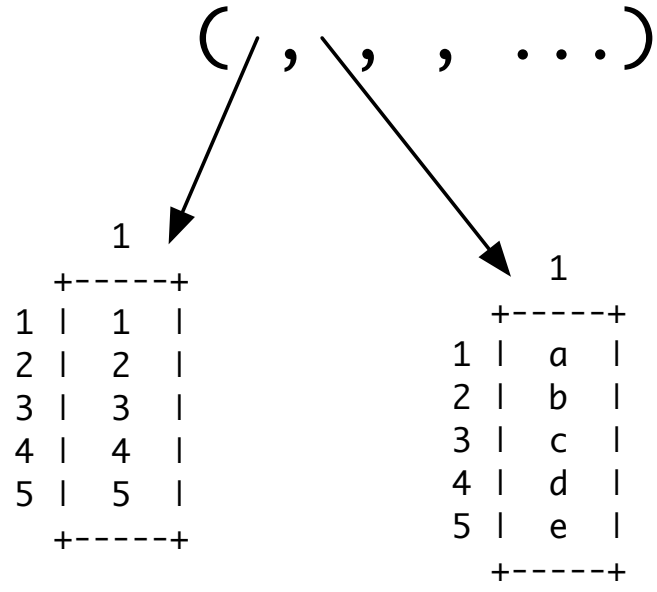
- rowvector of pointers to colvectors



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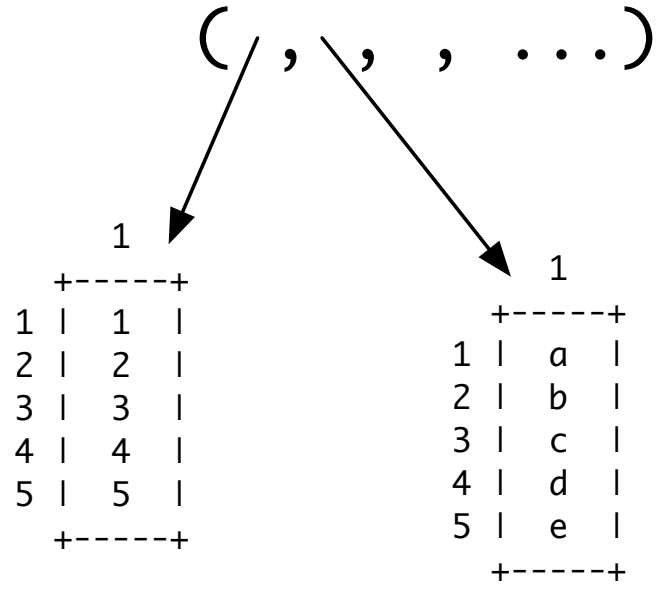

- dataset structure

```
struct ud_dataset {
    string rowvector                    varnames
    pointer(colvector) rowvector        data
}
```

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- construct check at top of patch file (i.e., do-file)

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- summary output only

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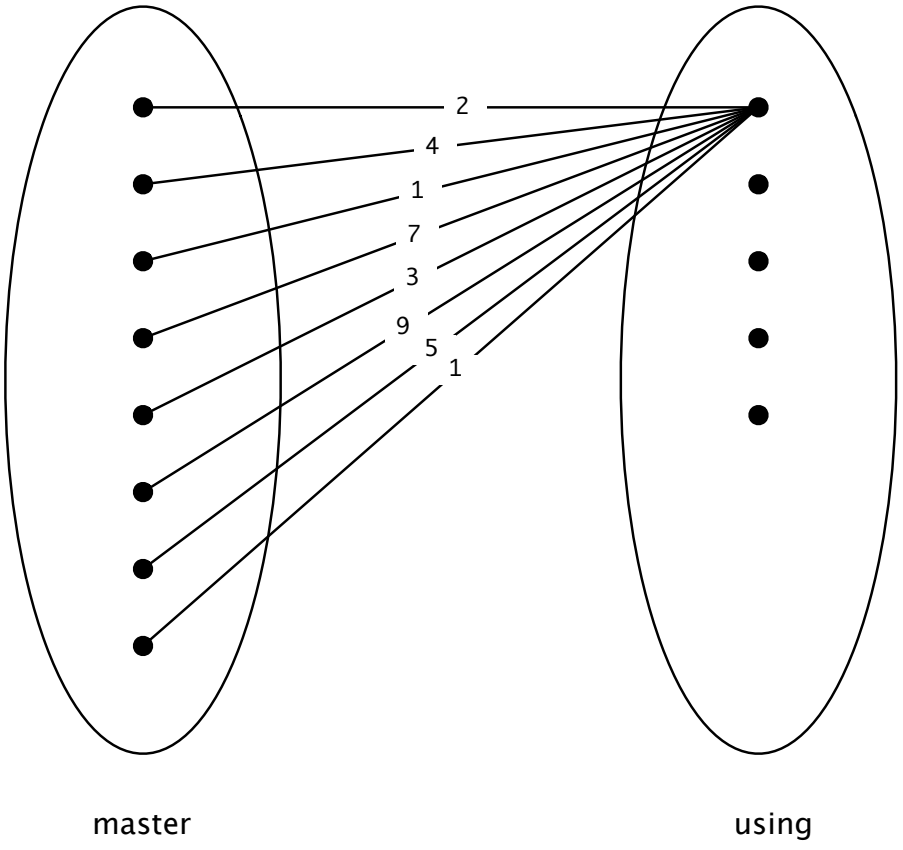
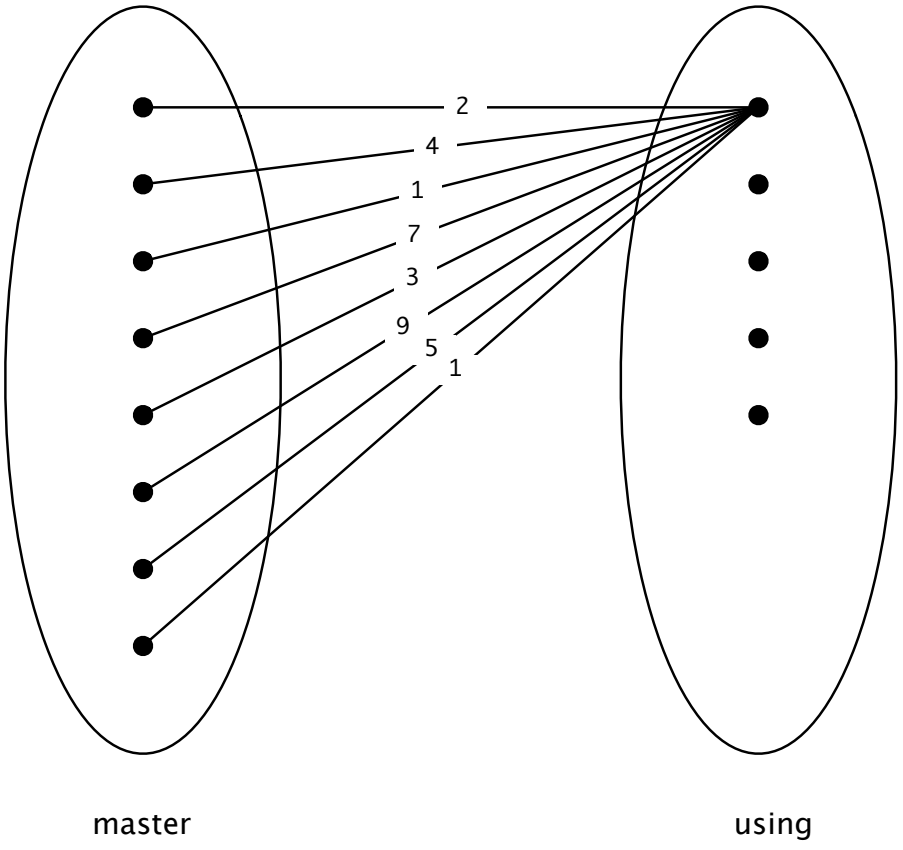
- After all identical observations matched, match *all* remaining obs according to "optimal" criterion

Weighted bipartite graph



Weighted bipartite graph



- choose matching to minimize sum of edit distances

datadiff

Syntax:

```
datadiff [varlist] using <filename>
```