

exercise

(taken from the Dejavu benchmark set)

- consider an event stream showing auction results. there are three types of events:
 - the listing of an item with a starting price
 - a bid for an item for a given price
 - the sale of an item
- an example event stream is shown on the right, as comma separated values. store this in a file called `log1.csv`
- write a cobra scripted query that checks that bids on specific items always strictly increase in price, and execute it by reading `log1.csv` from the standard input
 - that is, if a bid `b2` is submitted on an item, and in the past there was another bid `b1` on the same item, then `b2` must be larger than `b1`
 - the desired result is shown at the bottom right

```
$ cat log1.csv
list,hat,100
bid,hat,50
bid,hat,110
sell,hat
list,painting,2000
bid,painting,1000
bid,painting,900
sell,painting
list,painting,1800
bid,painting,1850
sell,painting
bid,table,500
```

```
$ cat prop.cobra
%{
    if (#bid)
    {
        . = .nxt; . = .nxt; i = .;    # ( item
        . = .nxt; . = .nxt; a = .;    # , amount
        assert(Bid[i.txt] < a.txt);
        Bid[i.txt] = a.txt;
    }
%}
$ cobra -f prop.cobra < log1.csv
:7: assertion violated at: bid,painting,900
```