Problem 1: simple lists

Note: L.index(x) will return the index of x within list L, or crash if x is not in the list.

```
nums = [100, 2, 3, 40, 99]
words = ["three", "two", "one"]
```

Expression:	Value:
nums[-1]	
nums[1:3]	
words[1]	
words[1][1]	
words[1][-2] * nums[2]	

Expression:	Value:
words.index("two")	1
nums[words.index("two")]	
nums[:1] + words[:1]	
",".join(words)	
(",".join(words))[4:7]	

Problem 2: list in a list

rows = [["x", "y", "name"], [3, 4, "Alice"], [9, 1, "Bob"], [-3, 4, "Cindy"]]
header = rows[0]
data = rows[1:]
X = 0
Y = 1
NAME = 2

Expression:	Value:
len(rows)	
len(data)	
len(header)	
rows[1][-1]	
data[1][-1]	

Expression:	Value:
header.index("name")	
data[-1][header.index("name")]	
(data[0][X] + data[1][X] + data[2][X]) / 3	
(data[-1][X] ** 2 + data[-1][Y] ** 2) ** 0.5	
min(data[0][NAME], data[1][NAME], data[2][NAME])	

Problem 3: CSV (without a header), borrowed from 538

Food Science	24280	0.049188446	62000
CS	783292	0.049518657	78000
Microbiology	68885	0.050880749	60000
Math	432806	0.05293608	66000

```
rows = [ ["Food Science", "24000", "0.049188446", "62000"],
         ["CS", "783000", "0.049518657", "78000"],
         ["Microbiology", "70000", "0.050880749", "60000"],
         ["Math", "433000", "0.05293608", "66000"] ]
hd = ["major", "students", "unemployed", "salary"]
```

Expression:	Value:
rows[1][0]	
rows[3][hd.index("students")]	

Expression:	Value:
len(hd) == len(rows[1])	
rows[0][1] + rows[2][1]	

Problem 4: CSV (with a header), borrowed from 538

city	state	2014_murders	2015_murders
Chicago	Illinois	411	478
Milwaukee	Wisconsin	90	145
Detroit	Michigan	298	295

```
rows = [ ["city", "state", "y14", "y15"],
         ["Chicago", "Illinois", "411", "478"],
         ["Milwaukee", "Wisconsin", "90", "145"],
         ["Detroit", "Michigan", "298", "295"] ]
hd = rows[0]
rows = rows[1:]
```

Expression:	Value:
rows[0][hd.index("city")]	
rows[0][hd.index("y14")]	

Expression:	Value:
rows[2][hd.index("y14")] < rows[2][hd.index("y15")]	
", ".join(rows[-1][:2])	