Subject: Re: array problems
Posted by jschwab@gmail.com on Fri, 11 Jul 2008 19:20:58 GMT
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On Jul 11, 2:36 pm, "David Sheerin" <davidshee...@btinternet.com>
wrote:
> Hi All
> I have a palindromic vector of floats, e.g. [a,b,c,b,a] , and I would like
> to expand it to include the mean between each value like [(0+a)/2, a,
> (a+b)/2, b, (b+c)/2, c, (c+b)/2, b, (b+a)/2, a, (a+0)/2]. Is there any
> elegant way of doing this without having to resort to clunky for loops?
>
> I also would like to repeat this action on the resulting vector.
>
> Thanks for any tips
>
> David

You can do this in a few lines with a combination of rebin and shift.

```
;; Take only the first section of the array
half = [a, b, c]

;; use rebin with the sample keyword to duplicate your values
;; this gives [a, a, b, b, c, c]
n = n_elements(half)
doubled = rebin(half, 2 * n, /sample)

;; now use shift to combine and average, and drop the last element
extended = ((doubled + shift(doubled, -1)) / 2.0)[0:2*n-2]

;; now you can use reverse() and array concatenation to do back
;; to the full palindromic array
```

Josiah