Subject: Array matching?
Posted by gknoke on Thu, 14 Sep 2006 19:17:10 GMT
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Hi, I'm trying to figure out a clever way to find all elements of two vectors that are equal. I'm searching a 2d array for all instances in which there is a large positive value above a certain threshold immediately adjacent to a large negative value below the same threshold. Currently my routine works like this:

```
diff = dat - shift(dat, [-1,0])
hi = where(diff gt threshold)
nhi = n_elements(hi)
for i=0,nhi-1 do begin
  lo = diff[i-1]
  if (lo lt -threshold) then dat[i] = (dat[i-1]+dat[i+1])/2.
endfor
```

This has a few checks to make sure the array indices aren't out of bounds, but this gives you a flavor of what I'm trying to do. Ideally I'd rather have something like this:

```
hi = where(diff gt threshold)
lo = where(diff lt -threshold)
lo = lo + 1
match = where(hi eq lo)
hits = hi[match]
dat[hits] = (dat[hits -1] + dat[hits+1])/2.
```

but I'm not sure how to compare two arrays in IDL to find the indices where the values in one array match the values in another array without using a for loop.

Any clever ideas how to do this would be appreciated.

--Greg