
Subject: Re: Use of ++ operator to count frequency of an entry (Was: Majority Voting)

Posted by [Jeremy Bailin](#) on Mon, 09 Mar 2009 12:33:49 GMT

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On Mar 8, 9:26 am, Allan Whiteford <allan-remove-th...@-and-this.phys-dot-strath.ac.uk> wrote:

```
> Hi,
>
> A couple of weeks ago it was pointed out that the ++ operator used in a
> vectorised form would work on repeated indices meaning that it's
> possible to do this:
>
> IDL> a=[1,2]
> IDL> ++a[[0,0,0,1,0,0]]
> IDL> print,a
>      6      3
>
> here a[0] has been incremented five times because the index 0 appears
> five times.
>
> It was pointed out that this meant that David's mode calculation example of:
>
> array = [1, 1, 2 , 4, 1, 3, 3, 2, 4, 5, 3, 2, 2, 1, 2, 6, -3]
> distfreq = Histogram(array, MIN=Min(array))
> maxfreq= Max(distfreq)
> mode = Where(distfreq EQ maxfreq) + Min(array)
> Print, mode
>
> could be re-written as:
>
> array = [1, 1, 2 , 4, 1, 3, 3, 2, 4, 5, 3, 2, 2, 1, 2, 6,-3]
> f=intarr(max(array)-min(array)+1)
> f[array-min(array)]++
> junk=max(f,idx)
> mode=idx + min(array)
> print,mode
>
> (in fact I see David's article on this has already been updated to
> include the ++ solution). It was also shown that this solution wasn't
> any slower than using histogram. It's not necessarily better but in
> certain situations could be easier to read.
>
> Anyway, it was pointed out that this meant that a++ behaves differently
> from a+=1 which some people didn't like and others didn't mind. Some of
> us (ok, mainly me) worried that using this behaviour of the ++ operator
> leading to problems later if it turned out that the behaviour wasn't
> intended by ITTVIS and they would try to rationalise ++ with +=.
```

>
> I volunteered to contact them to query if the behaviour was intended and
> if it could be considered future-proof. The response included:
>
> "the output of the following commands seem to be the expected one (and
> should not change in the future)
>
> a = [1, 2]
> a [[0, 0, 1, 0]]++
> print,a"
>
> so, as promised, this is me sharing the result of the query with the
> rest of the group. Everyone can feel safe about relying on the ++
> operator to work on repeated indices.
>
> Thanks,
>
> Allan

Excellent news, thanks for confirming that with ITT!

-Jeremy.
