
Subject: Mode????

Posted by [RobertKehoe](#) on Wed, 13 Jan 1999 08:00:00 GMT

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Hi there

I am trying to find an IDL function that returns the mode out of an array of numbers anyone know a way of doing this. It strange that there does not seem to be a function for this.

Rob.

--

The opinions expressed in this communication are my own and do not necessarily reflect those of my employer.

Subject: Re: Mode????

Posted by [S Penzes](#) on Thu, 14 Jan 1999 08:00:00 GMT

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RobertKehoe wrote:

> Hi there

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Hi,

If by "mode" you mean the number that occurs most frequently in a vector then take a look at this piece of code. It comes from the very first "Widget Programming" course (heck my manuals are all stamped DRAFT). It was put forward as an example of a piece of code that would forego the use of loops. To me it was a classic example and I periodically revive it to show what can be done.

Hope this is what you were looking for.

Function Mode, Value

NumElements = N_ELEMENTS(Value)

SortedValue = [Value(SORT(Value)),0]

SortedValue(NumElements)= NOT(SortedValue(NumElements-1))

ShiftedValue = SHIFT(SortedValue,1)

RunLengths = WHERE(SortedValue NE ShiftedValue)

RunsShifted = SHIFT(RunLengths,1)

MaxRun = MAX(Runlengths - RunsShifted, Index)

Mode = SortedValue(RunsShifted(Index))

Return, Mode
End

```
IDL> input=[3,3,4,4,4,2,2,5,5,5,5]
IDL> print,mode(input)
      5
```

--
Steven Penzes (Steven.nospamPenzes@dres.dnd.ca)
Note: remove "nospam" from Reply-To and .signature

Subject: Re: Mode????
Posted by [Vapuser](#) on Thu, 14 Jan 1999 08:00:00 GMT
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steinhh@ulrik.uio.no (Stein Vidar Hagfors Haugan) writes:

```
> Robert Kehoe wrote:
>
>> I am trying to find an IDL function that returns the mode out of
>> an array of numbers anyone know a way of doing this. It strange
>> that there does not seem to be a function for this.
>
> It would be (a lot!) easier to answer this question if you could
> explain what you mean by "returning the mode out of an array of
> numbers". But let me have one or two shots:
>
> If you mean the modulus of the numbers in an array, use the
> operator MOD, as in:
>
>   answer = numbers mod 5 ;; Returns array "numbers" modulo 5
>
> If you mean the size of an array (mode out of an array, well
> could be..?) try the function size().
>
> Otherwise, please clarify.
>
> Stein Vidar
```

Perhaps he means the statistical mode, i.e. the most probable value.
I don't know any procedure that does this but someone has probably
written one. Check the links on Dave Fanning's web page
(<http://www.dfanning.com/documents/idllinks.html>). You may find it
there.

The simpleminded way would be to calculate the histogram, then take the mode to be whatever value the maximum of the histogram was. This ignores the possibility of a multi-modal distribution. But I did say 'simpleminded'

William
