
Subject: Re: Locating desired values in an array.
Posted by [Matthew Argall](#) on Thu, 24 Jul 2014 12:13:30 GMT
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Here is a solution using Histogram and reverse indices.

```
;Create data
tn      = [replicate(3, 5), replicate(2, 3), replicate(9, 8)]
lat     = 42 + randomu(5, n_elements(tn))

;Histogram to find repeated track numbers
hist    = histogram(tn, MIN=0, REVERSE_INDICES=ri)

;Allocate memory to result.
nHist   = n_elements(hist)
theNumber = fltarr(nHist)
theIndex  = intarr(nHist) - 1

;Loop through each bin
for i = 0, nHist-1 do begin
    ;Only analyze bins with something in them
    if ri[i+1] gt ri[i] then begin
        ;Find the closest number and its index
        theNumber[i] = min( abs( 42 - abs(lat[ri[ri[i]:ri[i+1]-1]]) ), iMax )
        theIndex[i]  = ri[i] + iMax
    endif
endfor

;Weed out empty histogram bins
iKeep   = where(theIndex ne -1)
theNumber = theNumber[iKeep]
theIndex  = theIndex[iKeep]
```
