
Subject: Re: setintersection

Posted by [Jonathan Joseph](#) on Thu, 16 Sep 1999 07:00:00 GMT

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Well, to answer my own question, if anyone's interested...
After thinking about it a bit, I was able to modify the
setintersection function to produce the desired result.

Like the other routines, it "operates on sets represented
by arrays of positive integers."

There's probably a way to make it more efficient, but here
it is.

```
::  
;; finds the indeces in sets <a> and <b> of elements  
;; in the intersection of sets <a> and <b>  
::  
pro iSetIntersection, a, b, ia=ia, ib=ib  
  ;; use the full range  
  minab = min(a, MAX=maxa) < min(b, MAX=maxb)  
  maxab = maxa > maxb  
  
  ;; If either set is empty return null sets  
  if minab lt 0 then begin  
    ia = -1  
    ib = -1  
    return  
  endif  
  
  ;; find intersection  
  r = histogram(a, MIN=minab, MAX=maxab) < 1 and $  
    histogram(b, MIN=minab, MAX=maxab) < 1  
  
  ;; indeces of elements in intersection  
  ia = where(r(a-minab) gt 0)  
  ib = where(r(b-minab) gt 0)  
end
```

And here's the original setintersection

```
FUNCTION SetIntersection, a, b  
  minab = min(a, MAX=maxa) > min(b, MAX=maxb) ;Only need intersection of  
  ranges  
  maxab = maxa < maxb  
  
  ;; If either set is empty, or their ranges don't intersect: result =  
  NULL.
```

```
if maxab lt minab or maxab lt 0 then return, -1
r = where((histogram(a, MIN=minab, MAX=maxab) ne 0) and $
(histogram(b, MIN=minab, MAX=maxab) ne 0), count)
if count eq 0 then return, -1 else return, r + minab
end
```

Jonathan Joseph wrote:

```
>
> Hi, I've grabbed the useful functions
>
> SetIntersection(a,b)    ; Common elements
> SetUnion(a,b)          ; Elements in either set
> SetDifference(a,b)     ; Elements in A but not in B
>
> from David Fanning's web page
> http://www.dfanning.com/tips/set_operations.html
>
> But, what I really would like is a function
> that would return the indices in set A (or B) of
> the intersection of A and B.
>
> Does anyone know an efficient way to get this, or
> will I have to resort to a loop?
>
> -Jonathan
```
