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 indeces 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
```
