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*AHELP for CIAO 3.4*

## where

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### Synopsis

Get indices where an integer array is non-zero

### Syntax

```
Array_Type where (Array_Type a)
```

### Description

The where function examines an numeric array a and returns an integer array giving the indices of a where the corresponding element of a is non-zero.

Although this function may appear to be simple or even trivial, it is arguably one of the most important and powerful functions for manipulating arrays.

### Example

Consider the following:

```
variable X = [0.0:10.0:0.01];  
variable A = sin (X);  
variable I = where (A < 0.0);  
A[I] = cos (X) [I];
```

Here the variable X has been assigned an array of doubles whose elements range from 0.0 through 10.0 in increments of 0.01. The second statement assigns A to an array whose elements are the sin of the elements of X. The third statement uses the where function to get the indices of the elements of A that are less than 0.0. Finally, the last statement substitutes into A the cos of the elements of X at the positions of A where the corresponding sin is less than 0. The end result is that the elements of A are a mixture of sines and cosines.

## See Also

*slangrtl*

[isnull](#), [reshape](#), [typeof](#), [acos](#), [acosh](#), [array\\_info](#), [array\\_map](#), [asin](#), [asinh](#), [atan](#), [atanh](#), [cos](#), [cosh](#), [exp](#),  
[get\\_struct\\_field](#), [length](#), [log](#), [log10](#), [reshape](#), [set\\_struct\\_field](#), [sin](#), [sinh](#), [sqrt](#), [tan](#), [tanh](#), [transpose](#), [typeof](#)

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URL:  
<http://cxc.harvard.edu/ciao3.4/where.tm.html>  
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