

---

Subject: Re: Interesting property of sort

Posted by [Vince Hradil](#) on Wed, 16 May 2007 13:35:58 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

On May 16, 7:41 am, cmanc...@ufl.edu wrote:

```
> while attempting to build a faster star matching algorithm, I
> "discovered" an interesting property of sort - or, an interesting use
> for it. Of course, you guys have all probably seen this before
> anyway, but I thought I would share it because it can be very useful.
> Essentially, I found the easy way to make a sort lookup table. So,
> let's say you have the array:
>
> test = [5,4,1,3,2]
>
> and you sort it:
>
> sortindex = sort(test)
> sorted = test[sortindex]
>
> now, what if you want to know where the 5 (or any other number) ended
> up in the sorted array? It turns out that you can make a lookup table
> by simply sorting sortindex.
>
> lookup = sort(sortindex)
>
> so, if you wanted to know where the first element of test ended up in
> the sorted list, you would say:
>
> print,lookup[0]
> ; prints "4"
> print,sorted[lookup[0]]
> ; prints "5"
>
> In retrospect, I suppose this result isn't suprising, and probably
> should have been immediately obvious. Still, I thought I'd share.
```

To add the obvious(?) - be careful if you try this with repeated values.

```
test = [5,4,4,1,3,2]
sortindex = sort(test)
lookup = sort(sortindex)
print, lookup[4]
; prints "2" [hey what about "1"]...
```

---