

Re: [pointers and arrays]: The difference between an array name and a pointer

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*Source:* [http://coding.derkeiler.com/Archive/C\\_CPP/comp.lang.c/2006-10/msg00329.html](http://coding.derkeiler.com/Archive/C_CPP/comp.lang.c/2006-10/msg00329.html)

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  - *Date:* 2 Oct 2006 10:04:06 -0700
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-----BEGIN PGP SIGNED MESSAGE-----

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iamchiaweilin@xxxxxxxxxx wrote:

Hello all:

What's the difference between p and q in the following statements?

```
char p[] = "Hello";  
char *q = "Hello";
```

I know q stores the address of 'H'.  
Question is: does p store the address of 'H' too?

No. p stores an array 6 of characters.

I know p is the name of the array that contains "Hello". Is array name a pointer?

No, but it can often be treated /as if/ it were a pointer.

In other words, is p exactly the same as &p[0]?

It depends on the context.

sizeof(p) will return 6 (the length of the reserved space), and  
sizeof (&p[0]) will return the size of a character pointer

but

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\*p is equal to 'H', and  
\*(amp[0]) is also equal to 'H'

p and q are the same if you want to print them out by %s.  
Is there a case where p and q (array name and pointer to the array)  
can not be used interchangeably? I knew there is, such as sizeof( ).

So you already know that p is /not/ a pointer.

p.s. I remembered reading somewhere on the Net says that the statement  
char \*q = "Hello"  
is not a good style of programming. coz you do not know whether q  
points to a valid address or not.  
Is it true?

Not necessarily. You left out a lot of context.

Often  
char \*q = "Hello";  
is better style than  
char p[] = "Hello";  
when you want the string to not be modifiable (initially).

But, because neither variable is declared as non-modifiable,  
p can be overwritten with a string of 0 to 5 characters + the EOS,  
and  
q can be overwritten with a pointer to something (either NULL or  
a real object)

HTH

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Lew Pitcher

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