

# Is there a difference between creating a null pen with `CreatePen` and just using the stock null pen?

[devblogs.microsoft.com/oldnewthing/20200127-00](https://devblogs.microsoft.com/oldnewthing/20200127-00)

January 27, 2020



Raymond Chen

A null pen draws nothing. It's a pen with no ink.

To get a null pen, you can use the stock null pen by calling `GetStockObject(NULL_PEN)`, or you can create your own null pen from scratch by calling `CreatePen(PS_NULL, something, something)`.

Is there a difference? Why would you choose one over the other?

All null pens are functionally equivalent. They all do nothing. The difference is in the rules for handling them.

The stock null pen is always available, and you don't need to destroy it. (Indeed, you *can't* destroy it.) On the other hand, if you create your own custom null pen, then it's on you to destroy it.

Now I get to talk about implementation details: Remember that implementation details are not contractual and may change at any time.

Starting in the Windows NT series, the `CreatePen` function (and its moral equivalents such as `CreatePenIndirect`) checks whether you're creating a null pen. If so, then it just gives you the stock null pen instead of creating a custom one.

The contract is still the same: Pens created with `CreatePen` still need to be destroyed (eventually) with `DeleteObject`. (But everything works out because your attempt to destroy the stock null pen is simply ignored.)

Aside from checking the numeric value of the handle and comparing it to the numeric value of the stock null pen, there's another way to detect that your null pen has been optimized out: See if your custom width and color are still there!

```
HPEN hpen = CreatePen(PS_NULL, 42, RGB(12,34,56));
LOGPEN lpen;
GetObject(hpen, sizeof(lpen), &lpen);
if (lpen.lpnWidth == 42)
{
    // CreatePen gave me a custom pen!
}
```

Fortunately, we didn't find any apps that secretly passed information by hiding it inside the the width and color of null pens.

Raymond Chen

**Follow**

