


A Reverse Fencepost

What if you want to use the same algorithm, but print the elements in reverse order? That's a little more difficult. Here is an "obvious" algorithm **which does not work correctly**:

```
 cout << a[len - 1];  
for (size_t i = len - 2; i >= 0; --i)  
{  
    cout << separator << a[i];  
}
```

The loop variable type is `size_t`, so as soon as you print `a[0]` and decrement the control variable `i`, instead of becoming `-1`, it "wraps around" and becomes the **largest possible unsigned number**. Since array subscripts are **not range checked**, the loop prints at larger and larger indexes until the program crashes.

This example below **works correctly**. Notice the extra `if` statement:

```
if (len > 0)  
{  
    cout << a[len - 1];  
    for (size_t i = len - 1; i > 0; --i)  
    {  
        cout << separator << a[i - 1];  
    }  
}
```



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