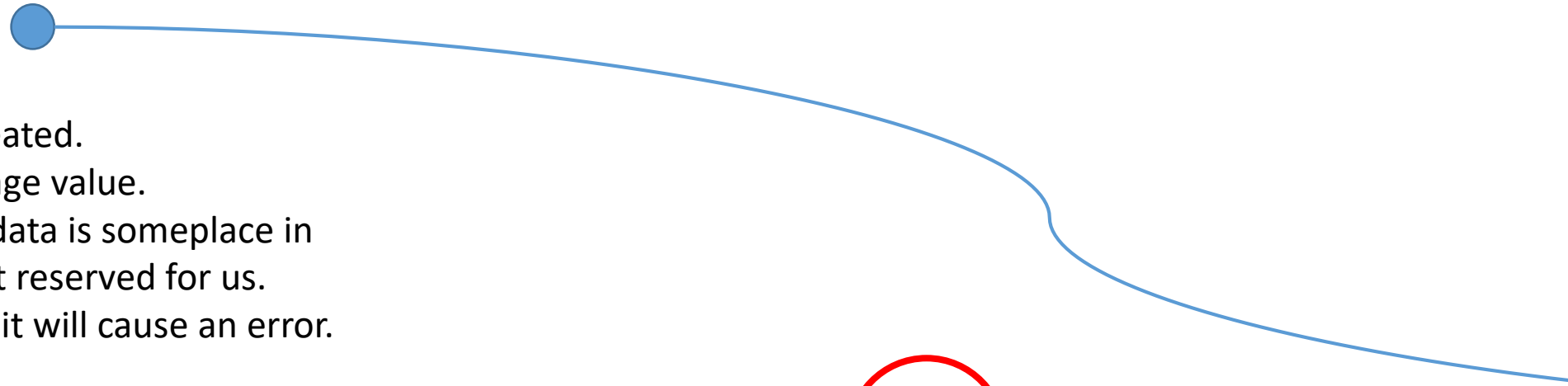
Using an uninitialized pointer

Type* m_data;

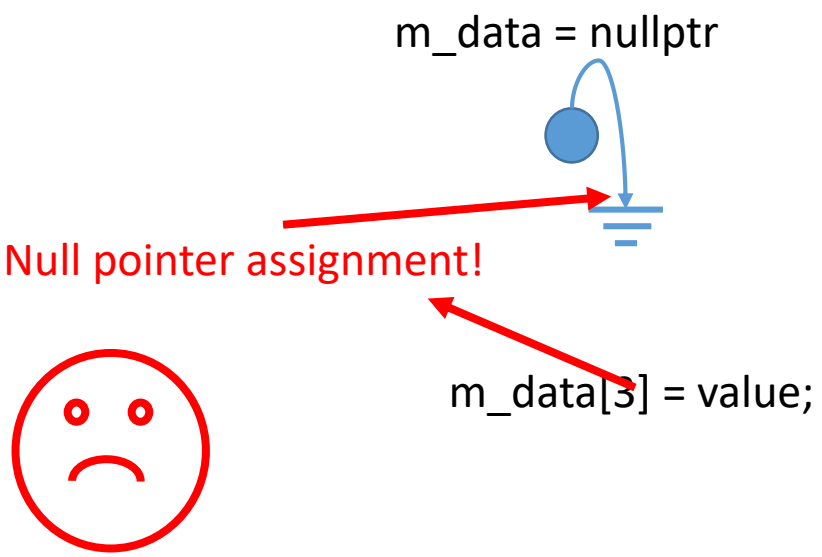


- m_data is just created.
- It has some garbage value.
- The target of m_data is someplace in memory that is not reserved for us.
- Hence, accessing it will cause an error.

m_data[5] = value; or *m_data = value;

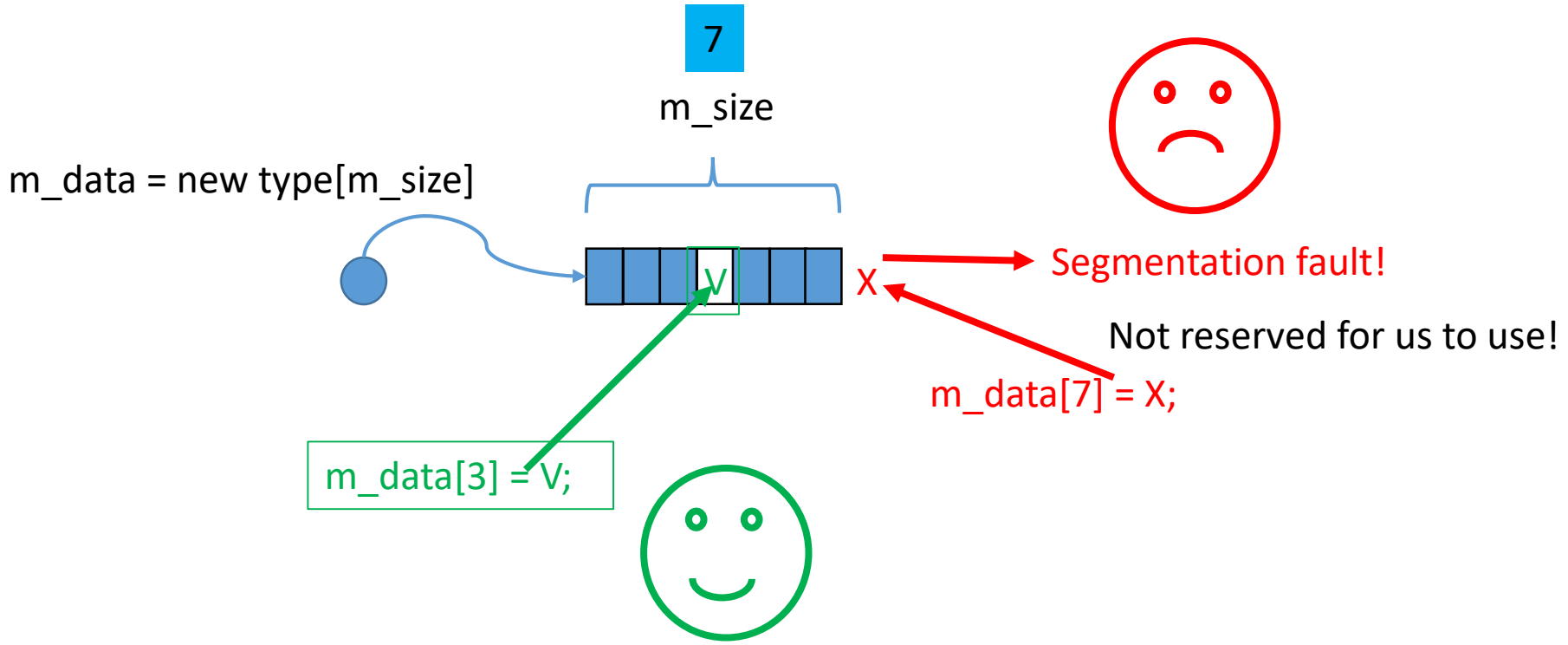
Segmentation fault!

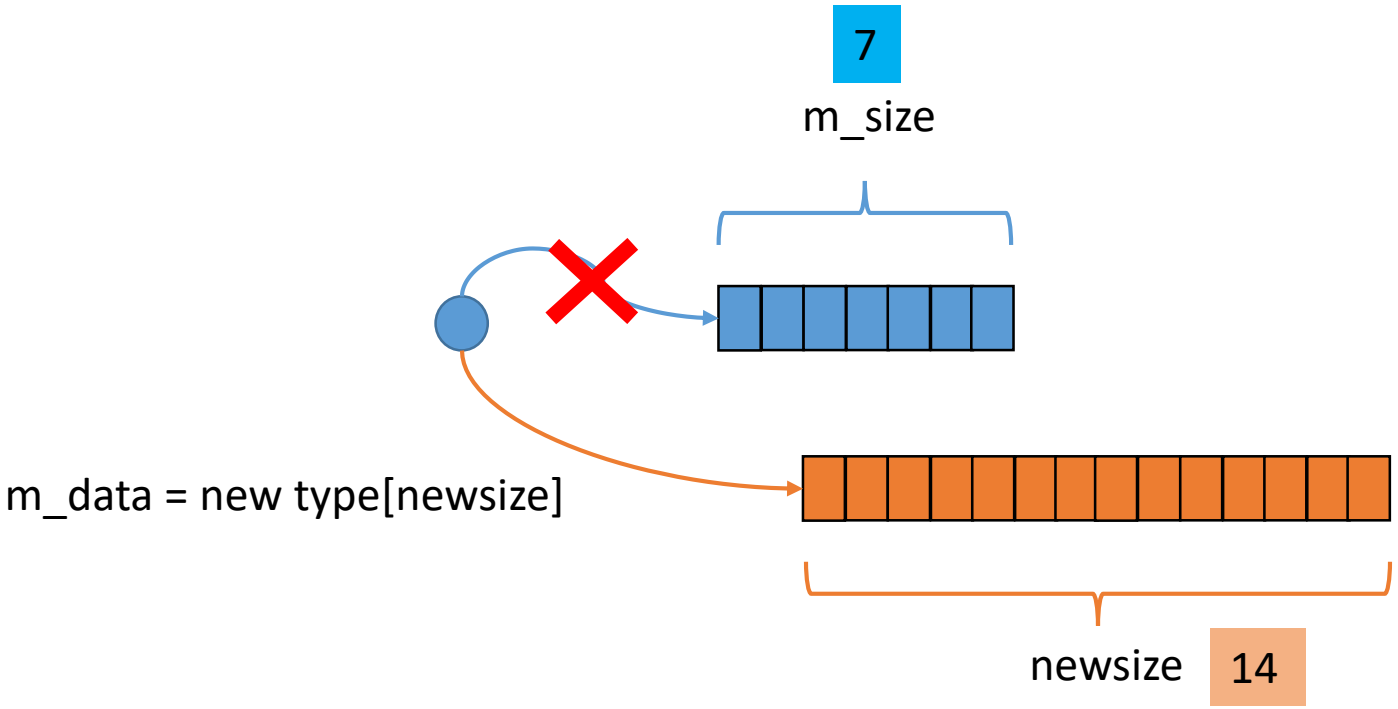
Using a NULL pointer



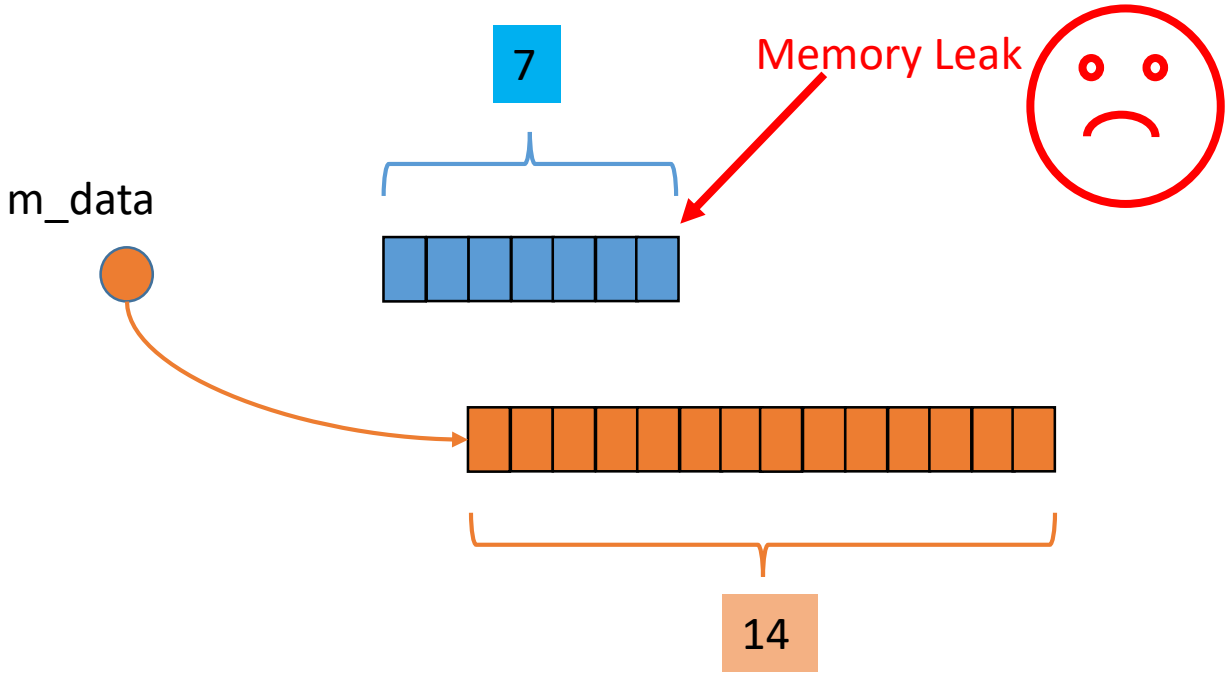
- m_data is set to null.
- Size and value of data does not have a meaning since there is nothing to have a size or value!

Going out of range of allocation size

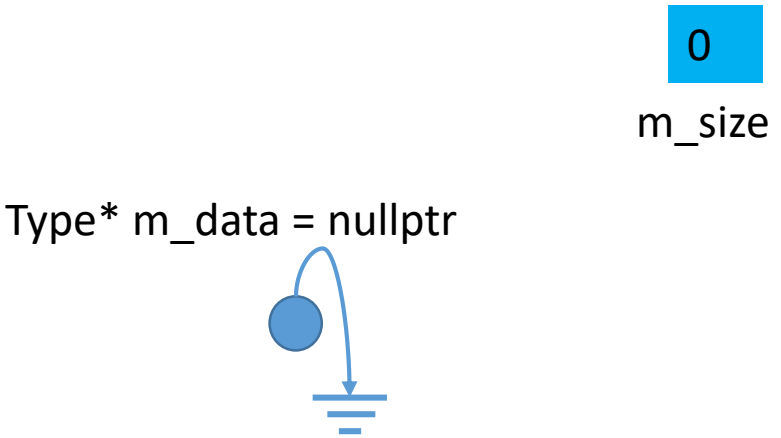




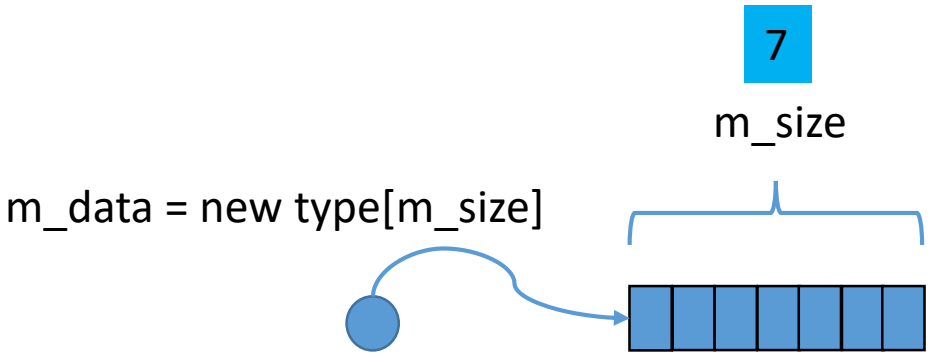
Causing Memory leak



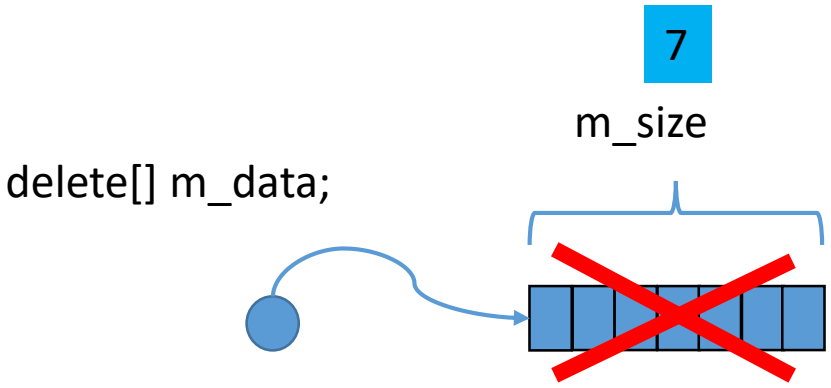
Causing Memory leak



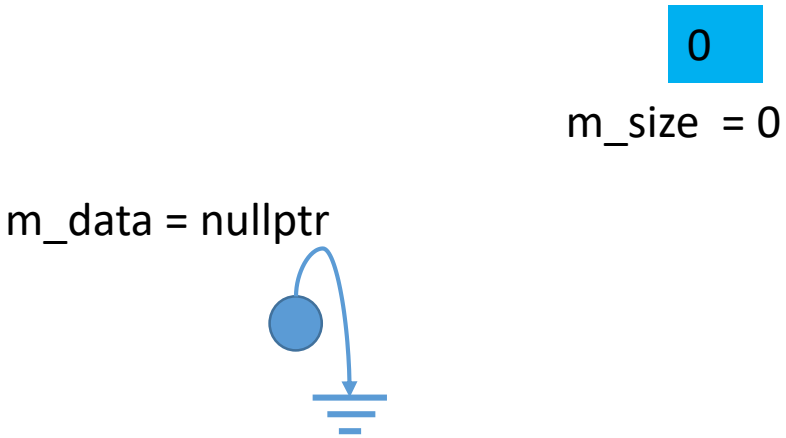
Correct state of an unused pointer for DMA



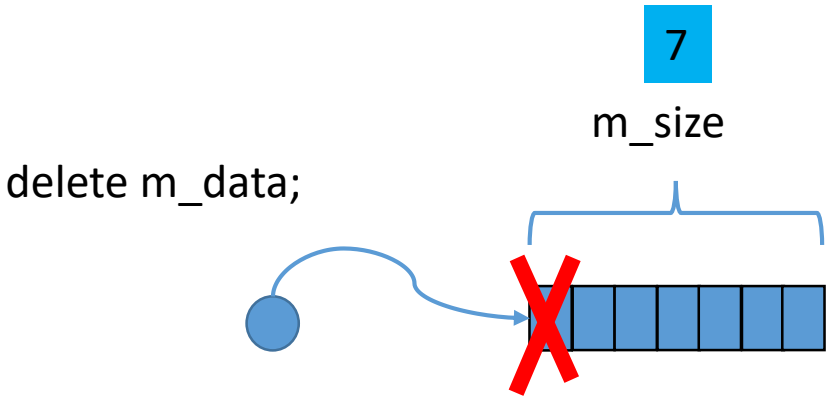
Correct state of a dynamically allocated memory



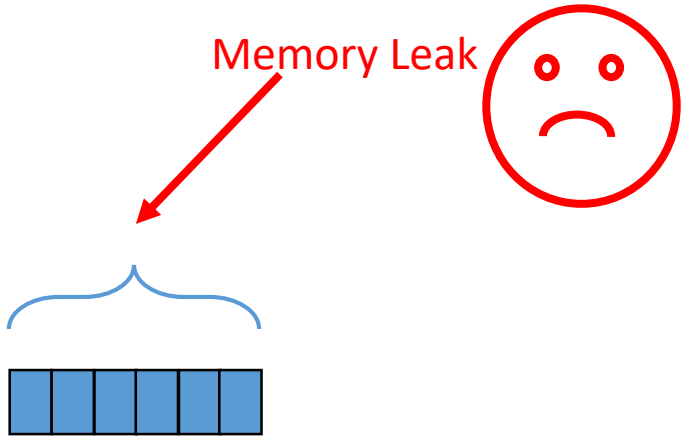
Correct memory deallocation



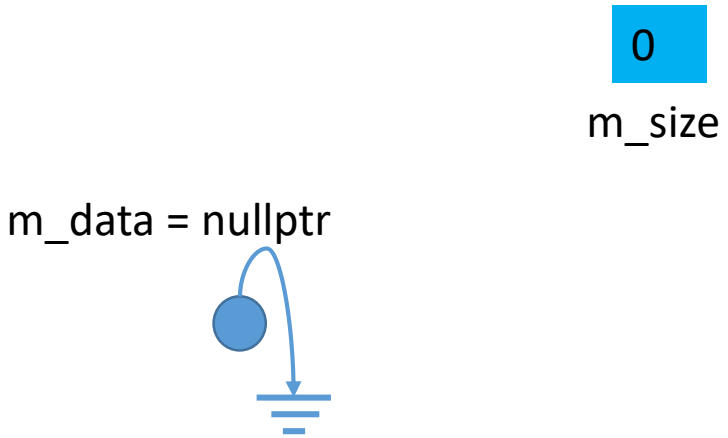
Always set everything back to NULL when done!



Incorrect memory deallocation



Causes memory leak



When reusing pointers always make sure they are actually not being used!!!!!

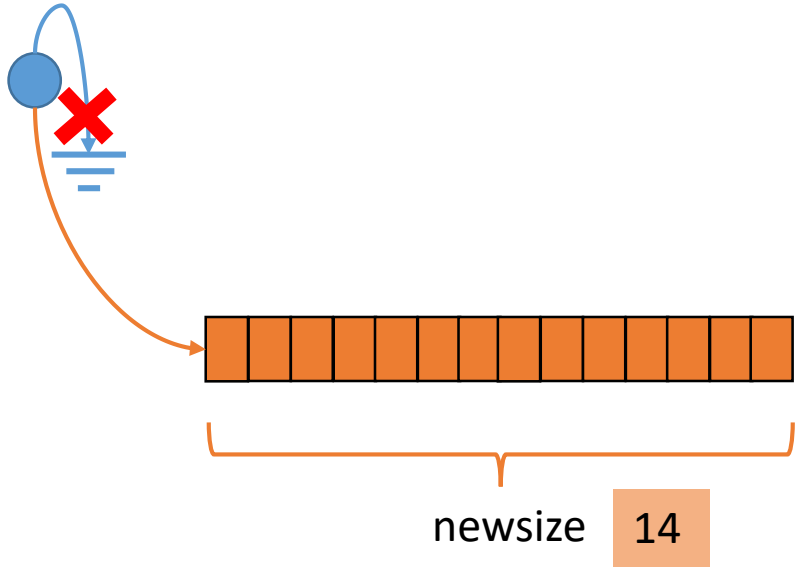
```
delete[] m_data;
```

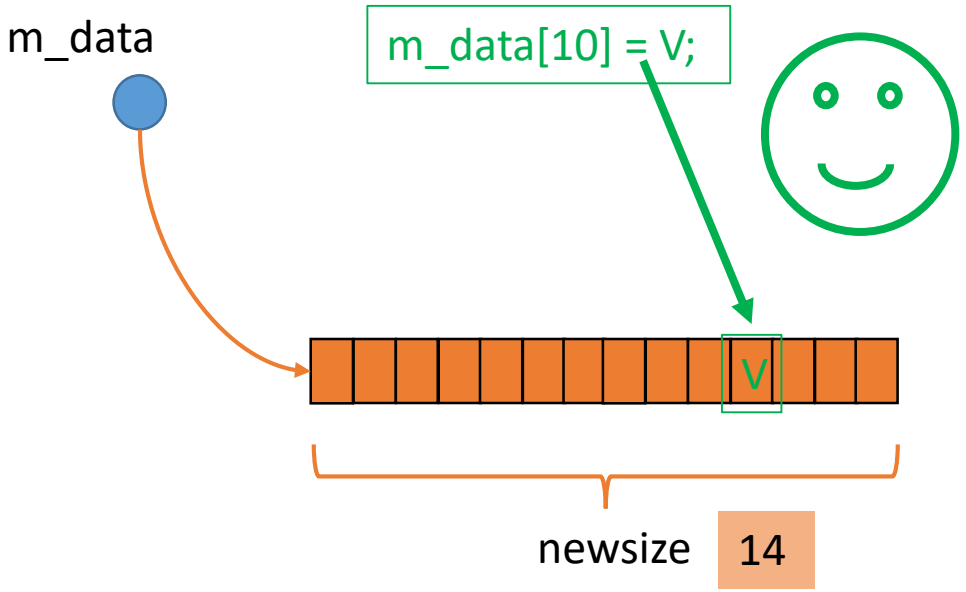
```
delete does to following automatically
if(m_data != nullptr){
    free memory
}
```

Then do DMA!

Reuse memory with new size and specs

m_data = new type[newsize]





Always stay within the range of your allocated memory size