Handling Non-Null Terminated Strings

A string_view works well with null-terminated strings. Let's see what happens when we point it to a substring which does not have a null character at the end.

If you get a `string_view` from a `string` then it will point to a null-terminated chunk of memory:

```
#include <iostream>
#include <string>
using namespace std;

int main() {
  std::string s = "Hello World";
  std::cout << s.size() << '\n';
  std::string_view sv = s;
  std::cout << sv.size() << '\n';
}
```

The two `cout` statements will both print 11.

But what if you have just a part of the `string`:

```
#include <iostream>
using namespace std;

int main() {
  std::string s = "Hello World";
  std::cout << s.size() << '\n';
  std::string_view sv = s;
  auto sv2 = sv.substr(0, 5);
  std::cout << sv2.data() << '\n'; /// ooops?
}
```

`sv2` should contain only “Hello”, but when you access the pointer to the underlying memory, you’ll receive the pointer to the whole string. The

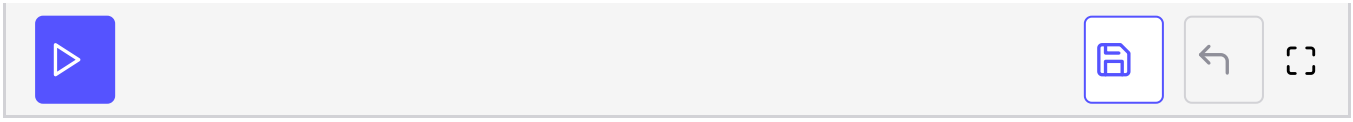
expression: `cout << sv2.data()` will print the whole string, and not just a part

of it! `sv2.data()` returns the pointer to the “Hello World” character array inside the string s object.

Of course, when you print `sv2` you’ll get the correct output.

```
#include <iostream>
using namespace std;

int main() {
  std::string s = "Hello World";
  std::cout << s.size() << '\n';
  std::string_view sv = s;
  auto sv2 = sv.substr(0, 5);
  std::cout << sv2 << '\n'; /// ooops?
}
```



This is because `std::cout` handles `string_view` type.

The example shows a potential problem with all third-party APIs that assume null-terminated strings. We’ll go through them one by one.