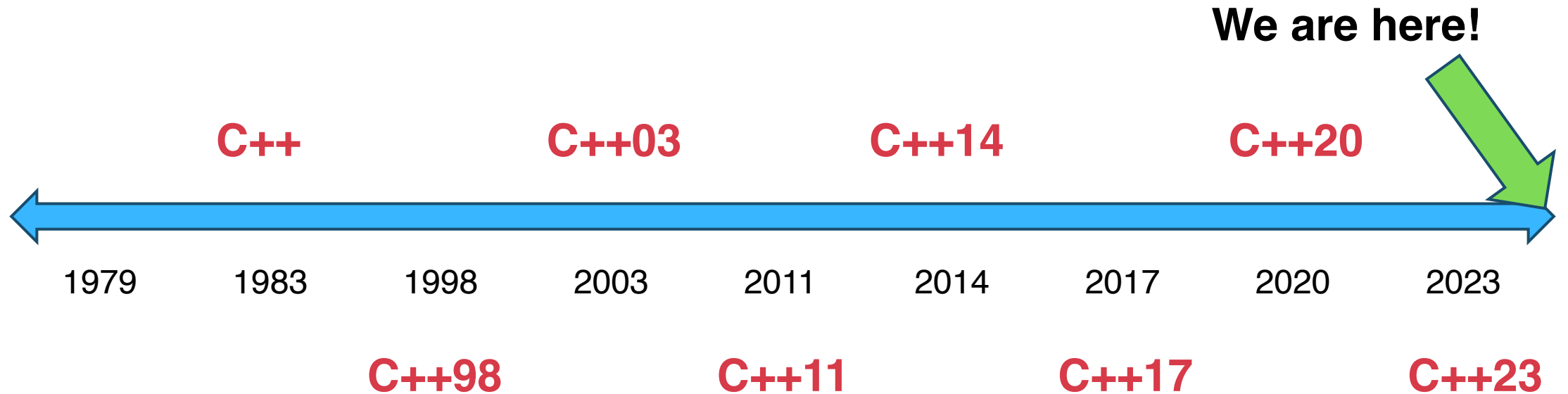


# The C++ Community

- C++ has a **MASSIVE** user base
- C++ Standard continues to be revised every three years



# A valid C++ program

```
#include <iostream>
#include <string>

int main() {
    auto str = std::make_unique<std::string>("Hello World!");
    std::cout << *str << std::endl;
    return 0;
}

// Prints "Hello World!"
```

# A valid C++ program

```
#include  
#include
```

Smart Pointers

Templates!

```
int main() {
```

```
    auto str = std::make_unique<std::string>("Hello World!");
```

```
    std::cout << *str << std::endl;
```

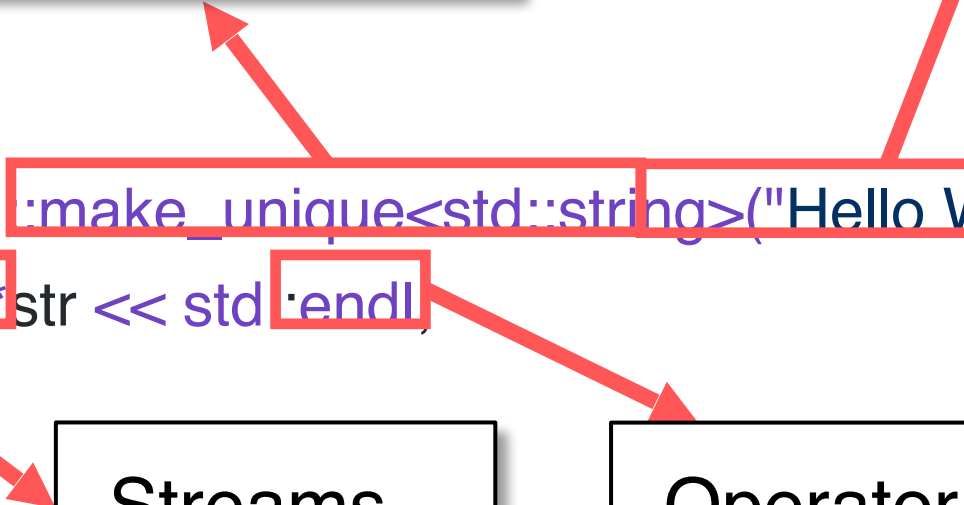
```
    return 0;
```

```
}
```

Streams

Operator Overloading

```
// Prints "Hello World!"
```



# C++ helps develop good coding hygiene

- Am I using objects the way they're meant to be used?
  - Type checking, type safety
- Am I using memory efficiently?
  - Reference/copy semantics, move semantics
- Am I modifying something I'm not supposed to?
  - `const` and const correctness
- Other languages relax these restrictions