TDDE18 & 726G77

Programming in C++

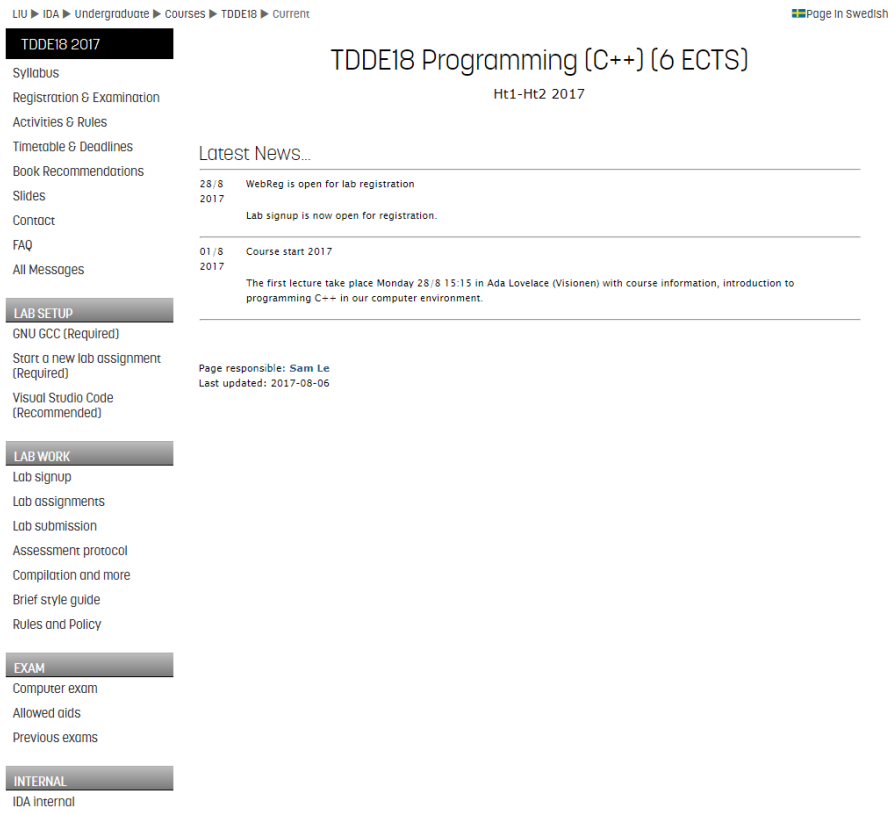
Administration

- Examiner – Eric Elfving
- Course leader – Sam Le
- Assistant 1 – Eric Petersson
- Assistant 2 – Alexander Johansson
- Assistant 3 – Mathias Berggren
- Assistant 4 – Kerstin Söderqvist

Course layout

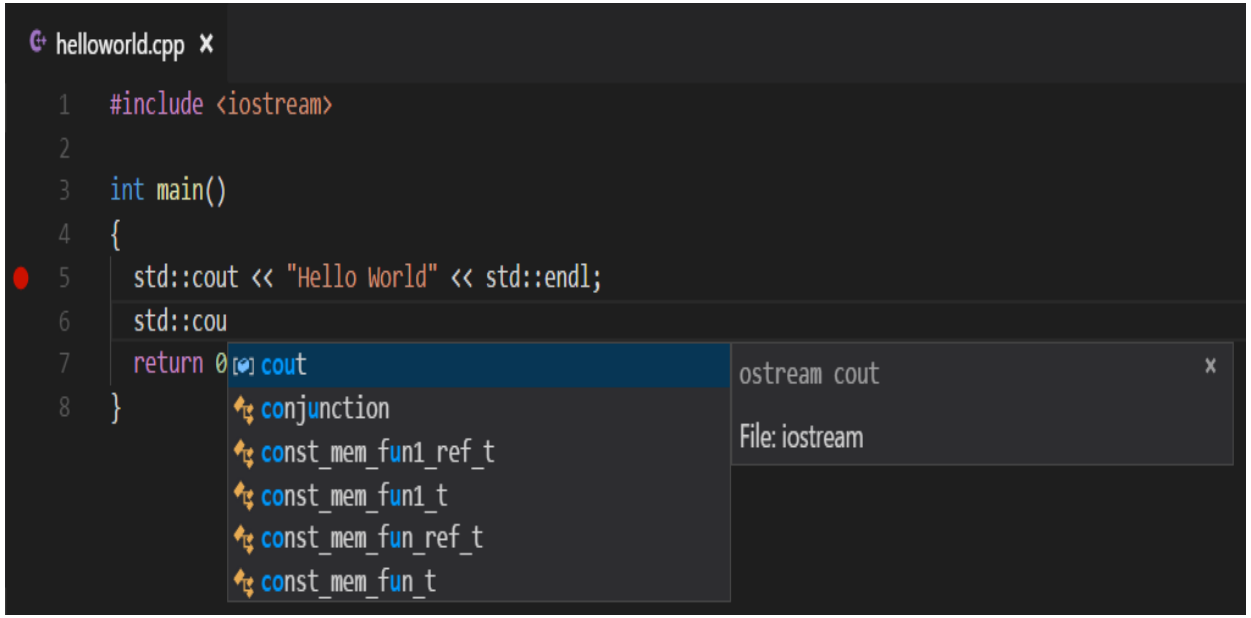
- Lectures
- Lessons
- Labs
  - 7 labs + introductory lab 0
  - Steep increase in difficulty from lab 2
- Exam

Course website



All information you need to complete the course exists on the course website

Visual Studio Code



- IntelliSense
- Debugging
- Built-in Git
- Extensions

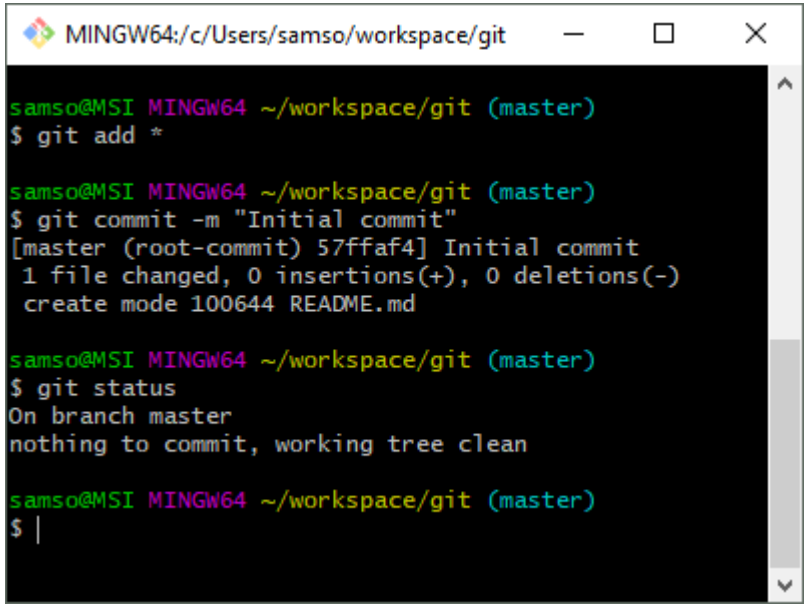
https://code.visualstudio.com/

Git

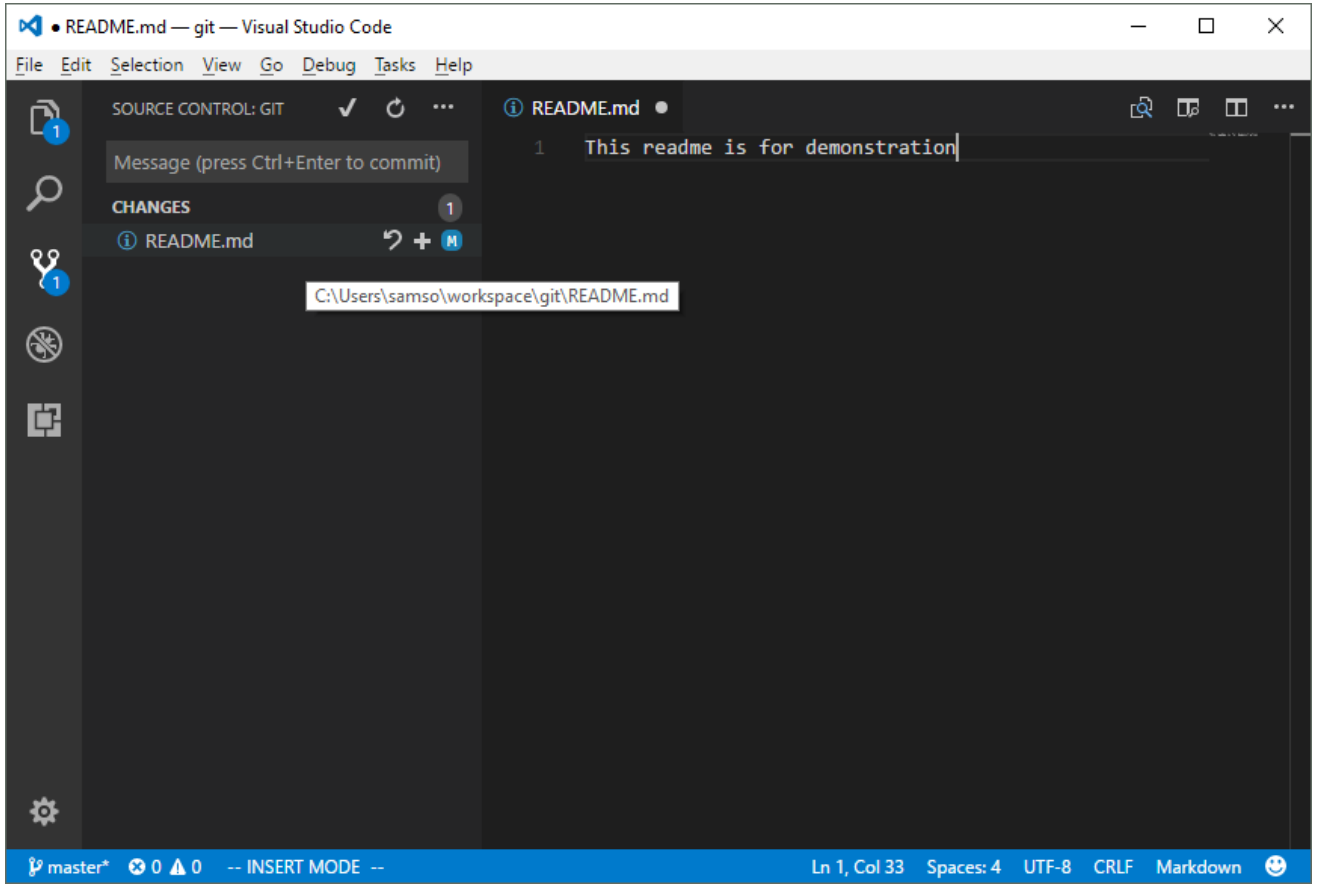
- Used for lab submission and lab collaboration between you and your lab partner

- Try git

Lab submissions with command line



Lab submission with Visual Studio Code



Sendlab

- ~TDDE18/sendlab registration – registrating for lab work
- ~TDDE18/sendlab start – starting a lab

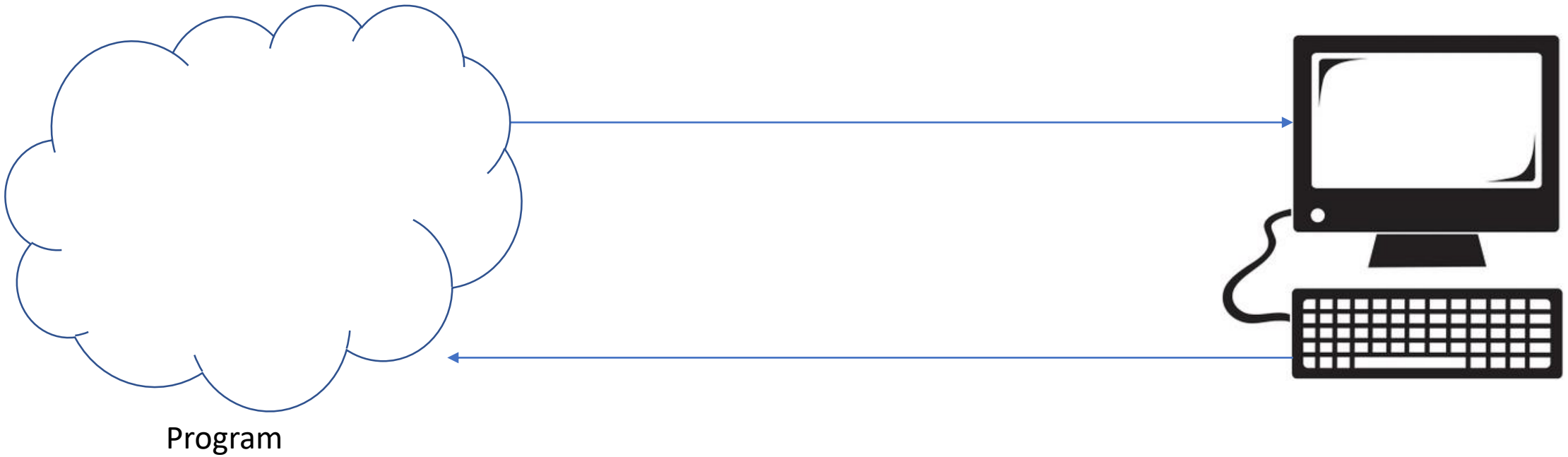
Course goal

- Explain and compare C++ language features and be able to apply them to relevant problems.
- Use the programming environment and tools provided by a standard Linux/UNIX system.
- Explain the function of existing C++ implementations and examples.
- Write readable, well structured solutions to small programming problems.

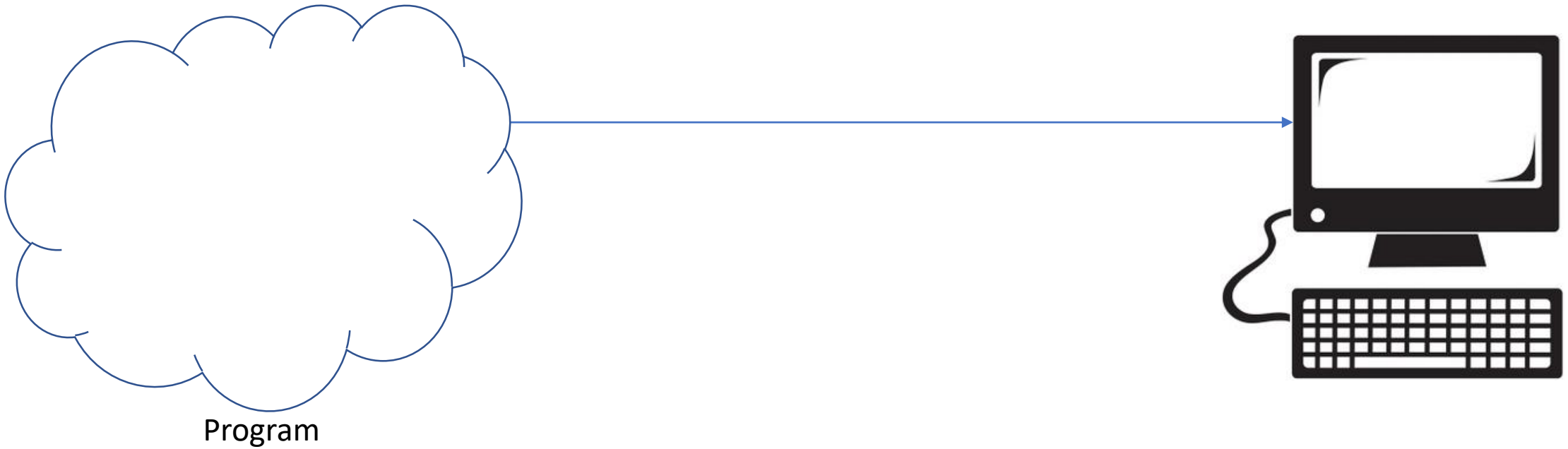
main is the start button

```
int main() {
}
```

Input and output



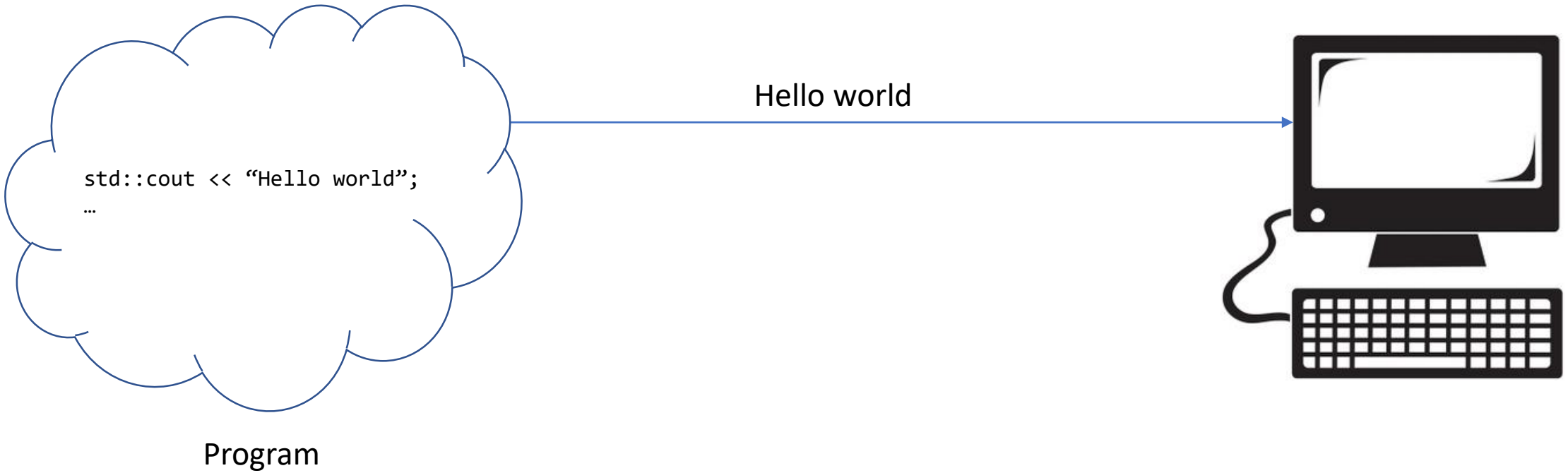
Output buffer



Cout

```
int main() {
     std::cout << “Hello world”;
     …
```

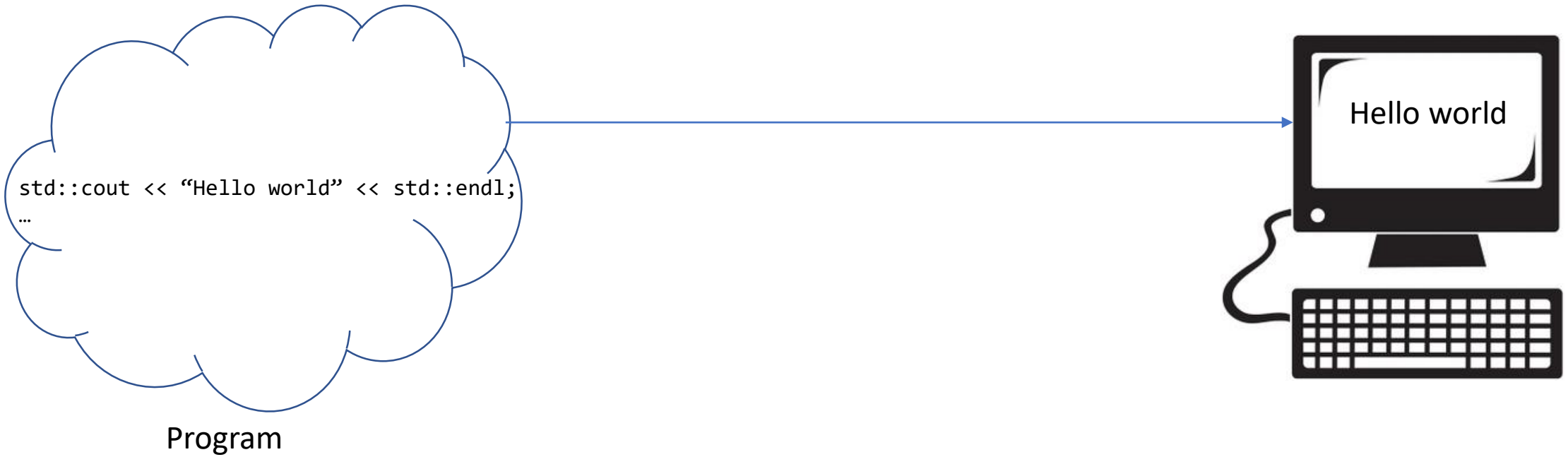
Output buffer



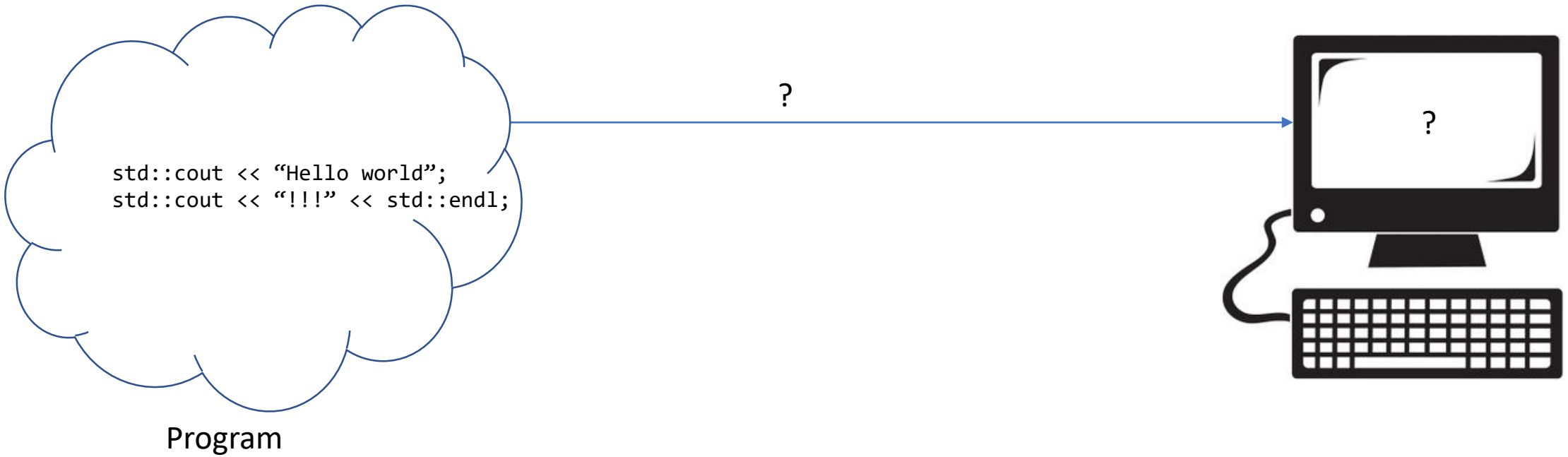
Flush buffer

- When the program exits
- Use something to flush
  - endl
  - flush

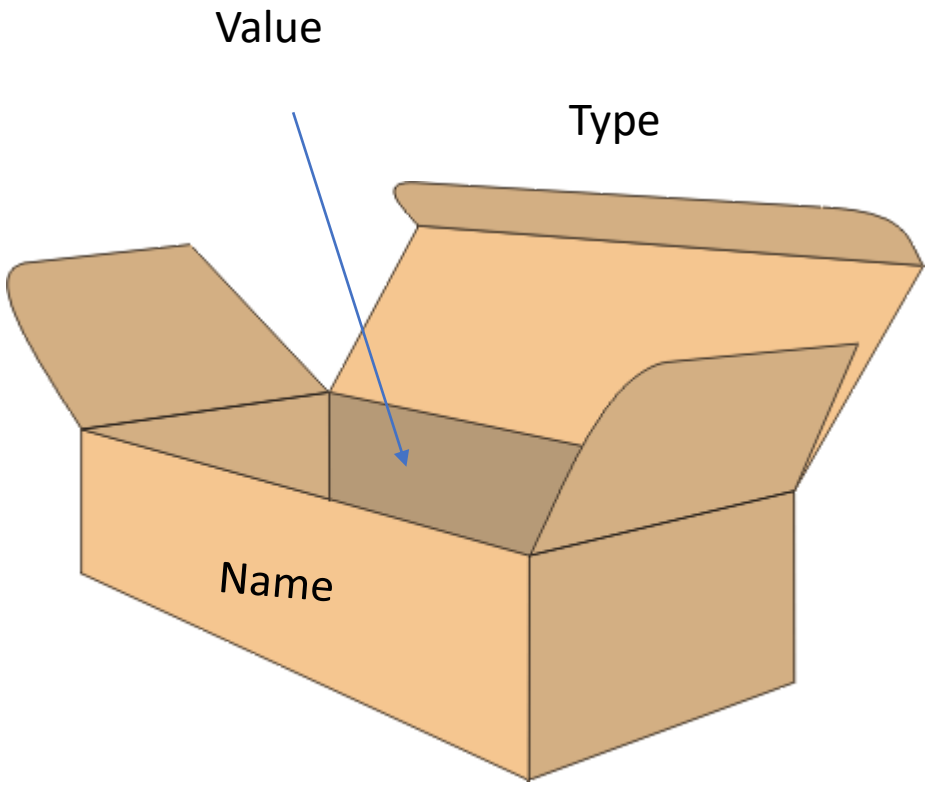
Flush buffer



Flush buffer



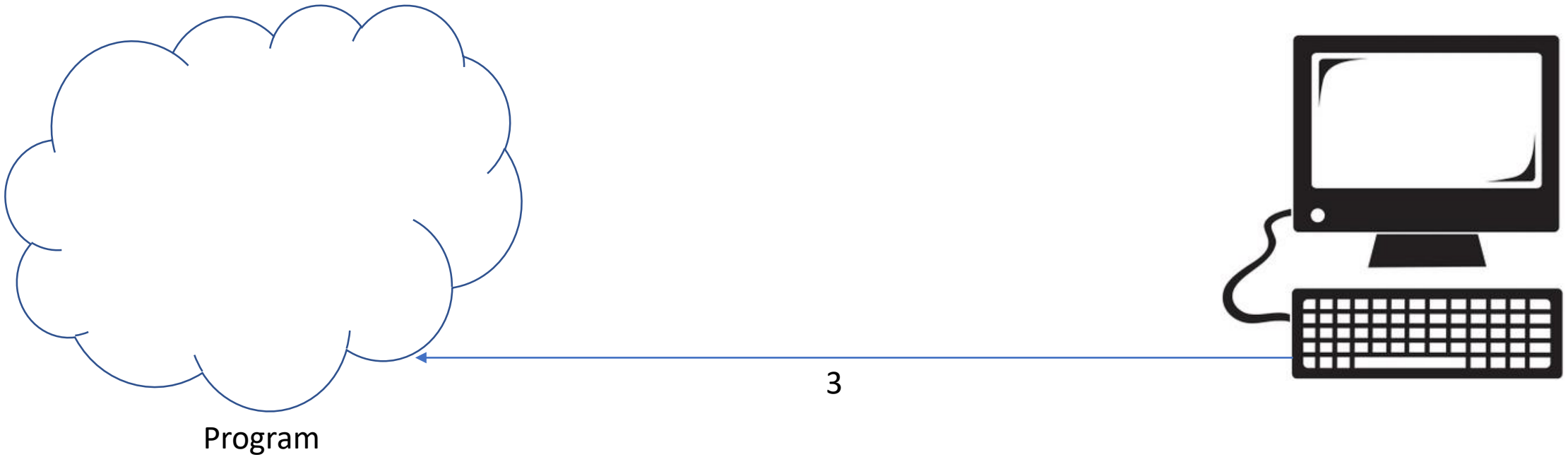
Variables



Example:

- int x{3}
- double y{3.14}
- char z{‘s’}

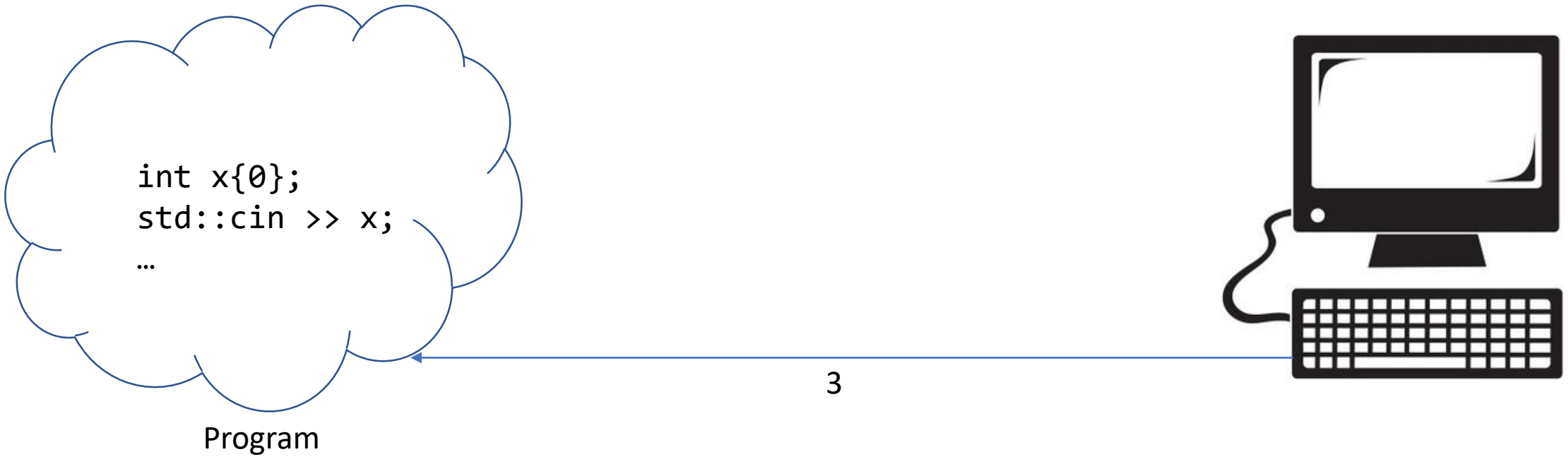
Input buffer



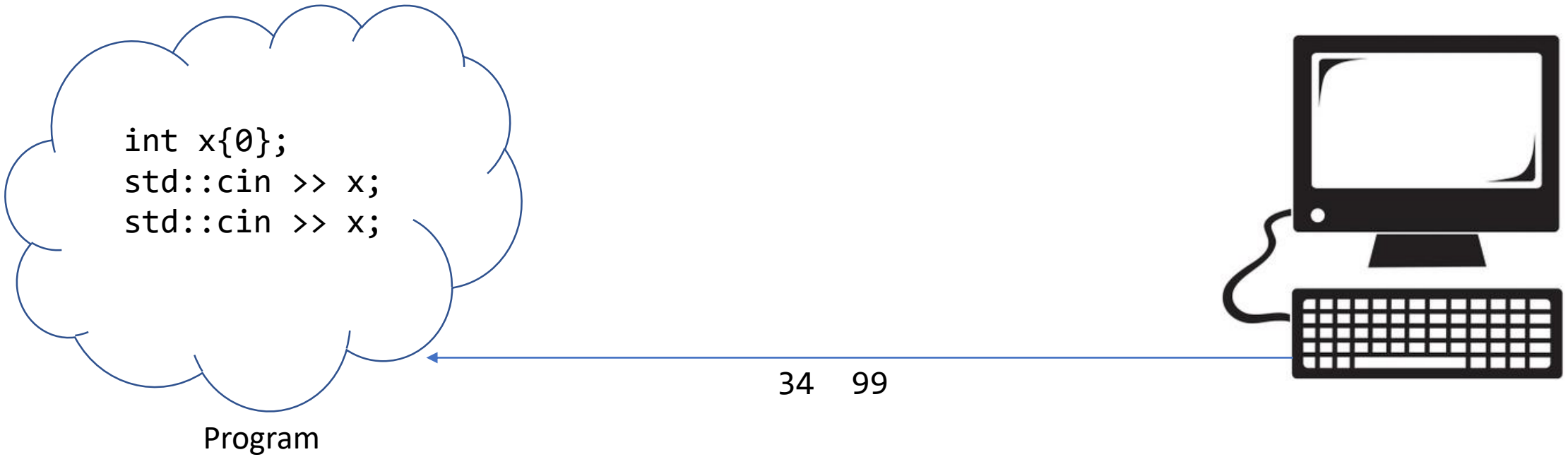
Cin

```
int main() {
     int x{};
     cin >> x;
     …
```

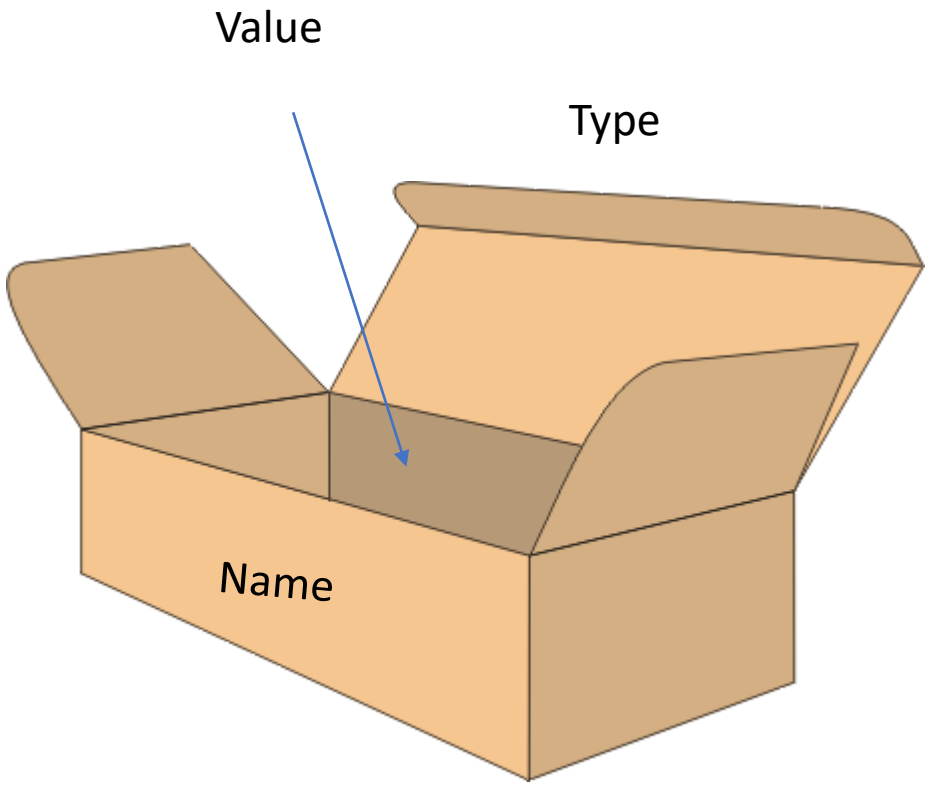
Input buffer



Input buffer



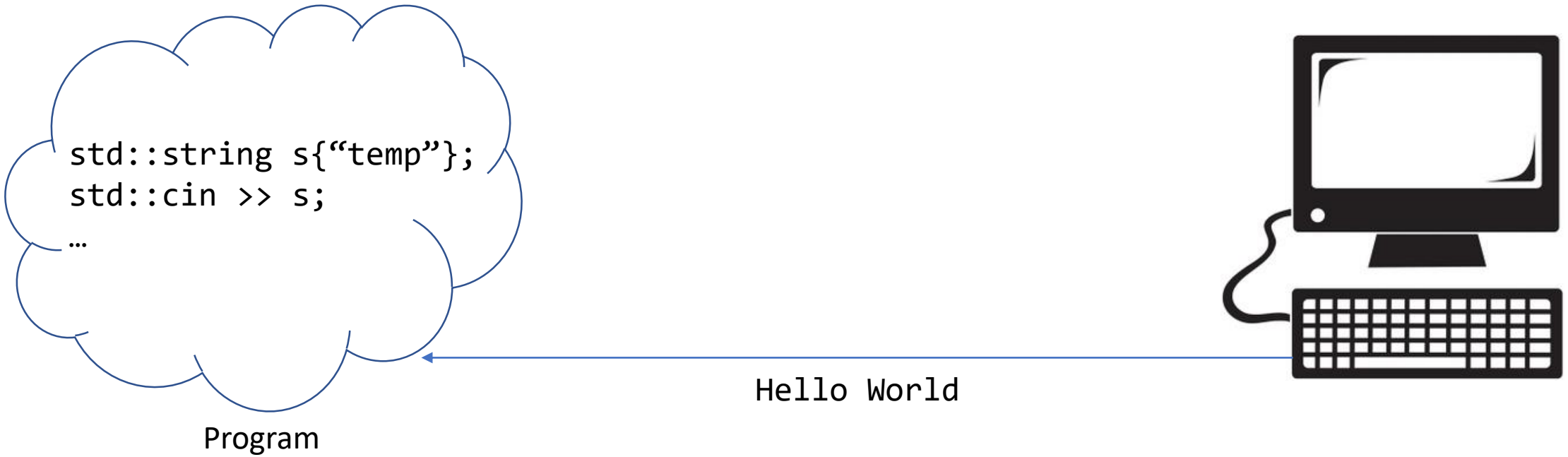
String



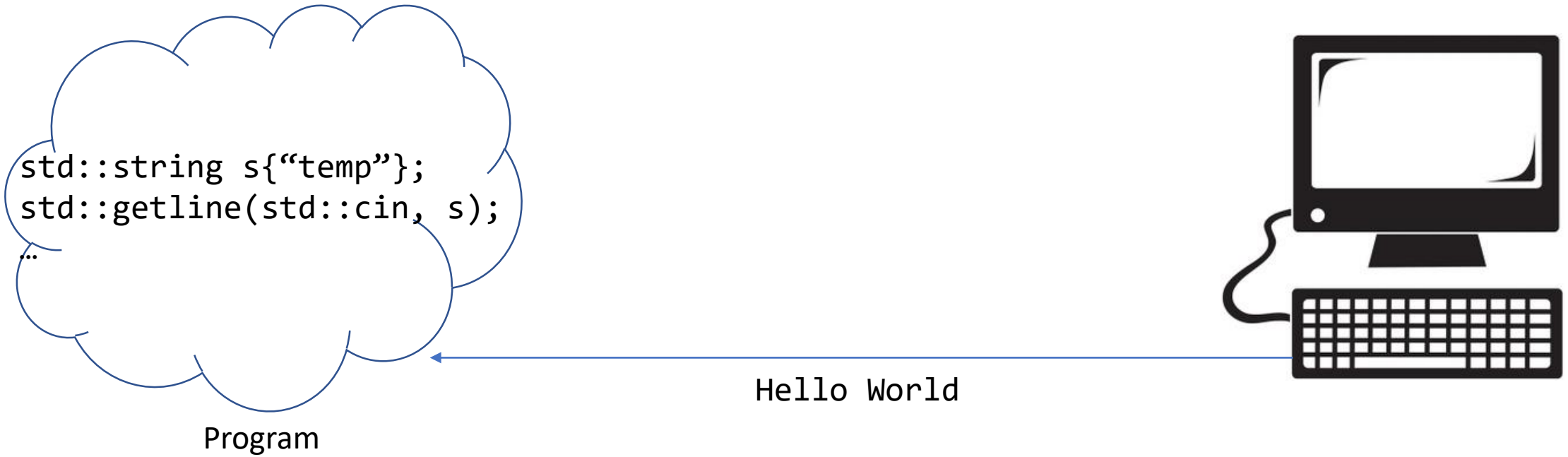
string s{“hello”}

s.size()
s.front()

Input buffer



Getline



Includes

- iostream
  - cin
  - cout
- iomanip
  - setw
  - setfill

```
#include <iostream>

int main() {
	std::cout >> “Hello world” >> std::endl;
}
```

Namespace

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

int main() {
        cout >> “Hello world” >> endl;
}
```

example

```
int main() {
        int x{};
        int y{};
        int z{};
        cout << z;
}
```

example

```
int main() {
        string s{};
        cout << s;
}
```

example

```
int main() {
        int x{};
        cout << setw(5) << setfill('0') << x << endl;
}
```

example

```
int main() {
        string s{};
        getline(cin, s);
        cout << s.front() << “ “ << s.back() << endl;
}
```

Hello World!!?

Compile

g++ file1 [file2…] [flags]

```
g++ file1
g++ file1 file2
g++ file1 –Wall

g++ file1 –Wextra –Wall –Wpedantic
```

Lab 0

- Wednesday at 8.15
- All groups
- Help will be available to setup sendlab