

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

LIU ► IDA ► Undergraduate ► Courses ► TDDE18 ► Current Page In Swedish

TDDE18 2017

Syllabus
Registration & Examination
Activities & Rules
Timetable & Deadlines
Book Recommendations
Slides
Contact
FAQ
All Messages

LAB SETUP
GNU GCC (Required)
Start a new lab assignment (Required)
Visual Studio Code (Recommended)

LAB WORK
Lab signup
Lab assignments
Lab submission
Assessment protocol
Compilation and more
Brief style guide
Rules and Policy

EXAM
Computer exam
Allowed aids
Previous exams

INTERNAL
IDA Internal

TDDE18 Programming (C++) (6 ECTS)

Ht1-Ht2 2017

Latest News...

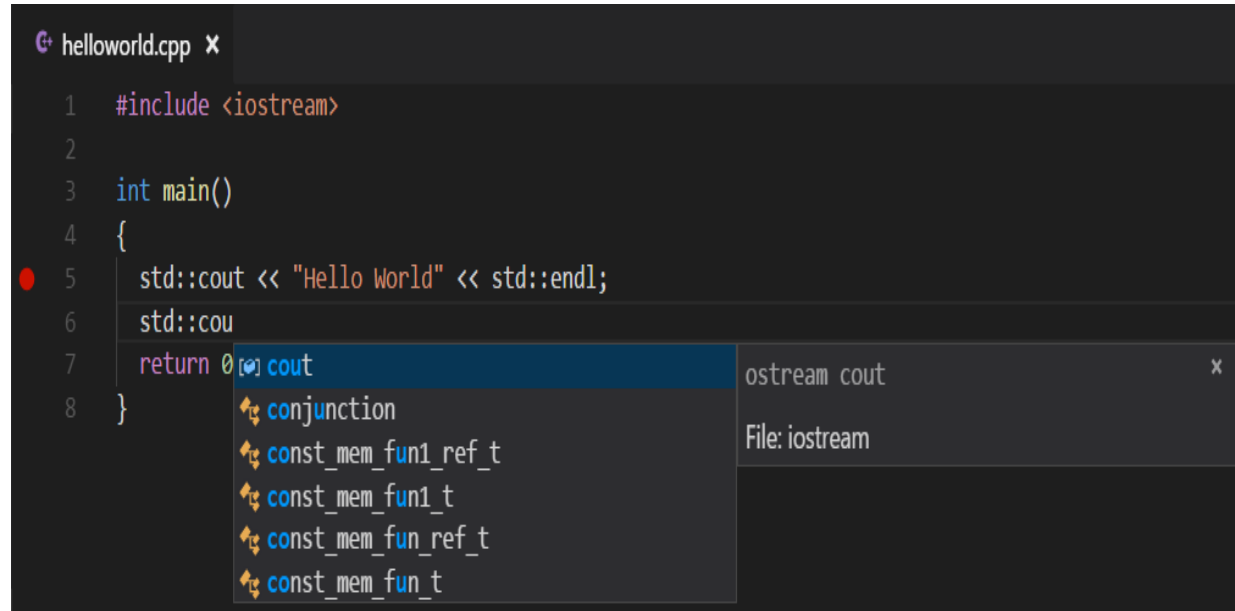
28 / 8 2017	WebReg is open for lab registration
	Lab signup is now open for registration.
01 / 8 2017	Course start 2017
	The first lecture take place Monday 28 / 8 15:15 in Ada Lovelace (Visionen) with course information, introduction to programming C++ in our computer environment.

Page responsible: Sam Le
Last updated: 2017-08-06

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

Visual Studio Code

```
helloworld.cpp x
1 #include <iostream>
2
3 int main()
4 {
5     std::cout << "Hello World" << std::endl;
6     std::cou
7     return 0;
8 }
```



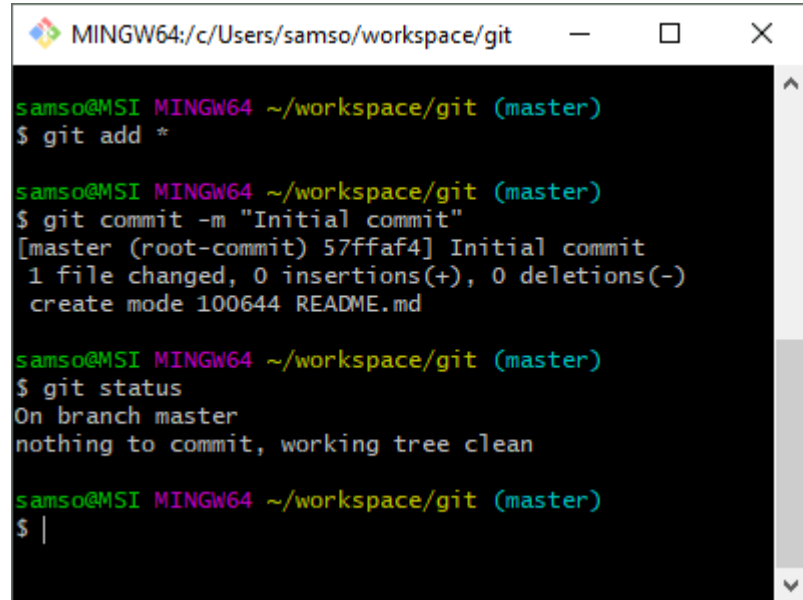
- IntelliSense
- Debugging
- Built-in Git
- Extensions

<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



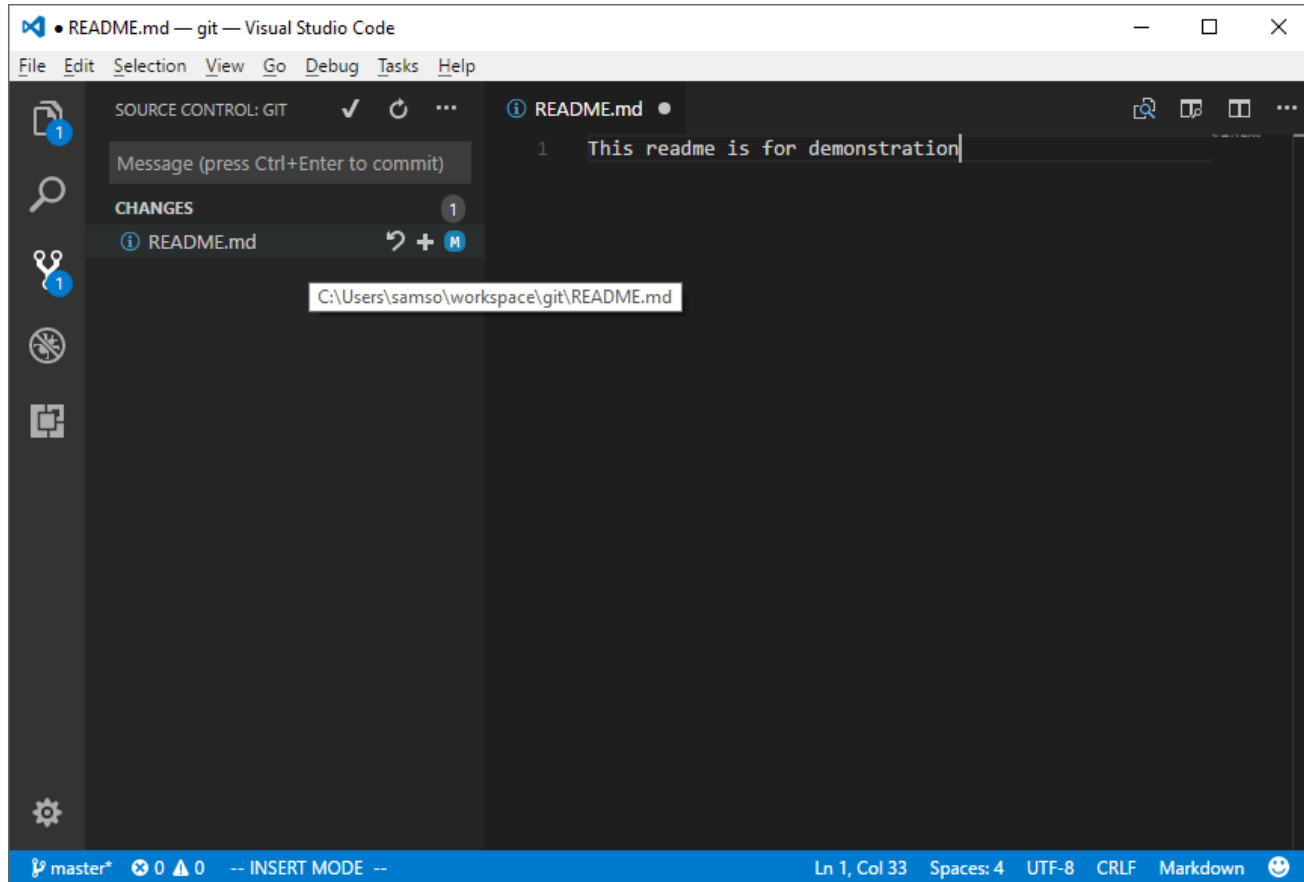
```
MINGW64:/c/Users/samso/workspace/git - □ ×
sams0@MSI MINGW64 ~/workspace/git (master)
$ git add *

sams0@MSI MINGW64 ~/workspace/git (master)
$ git commit -m "Initial commit"
[master (root-commit) 57ffaf4] Initial commit
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 README.md

sams0@MSI MINGW64 ~/workspace/git (master)
$ git status
On branch master
nothing to commit, working tree clean

sams0@MSI MINGW64 ~/workspace/git (master)
$ |
```

Lab submission with Visual Studio Code



Sendlab

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

Course goal

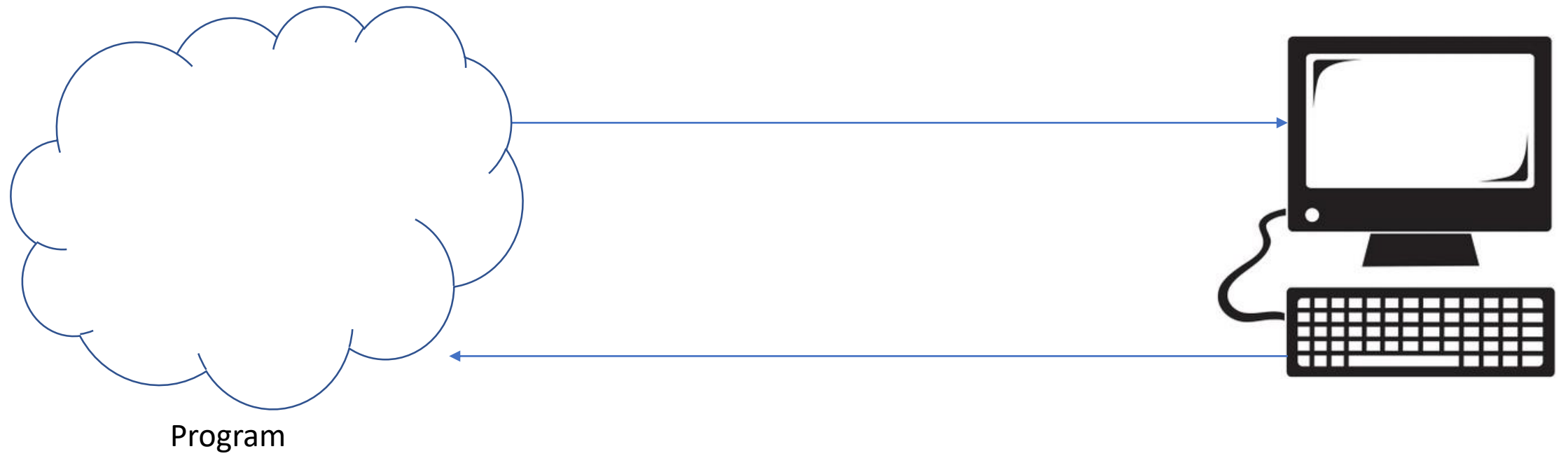
- Explain and compare C++ language features and be able to apply them to relevant problems.
- Use the programming environment and tools provided by a standard Linux/UNIX system.
- Explain the function of existing C++ implementations and examples.
- Write readable, well structured solutions to small programming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

main is the start button

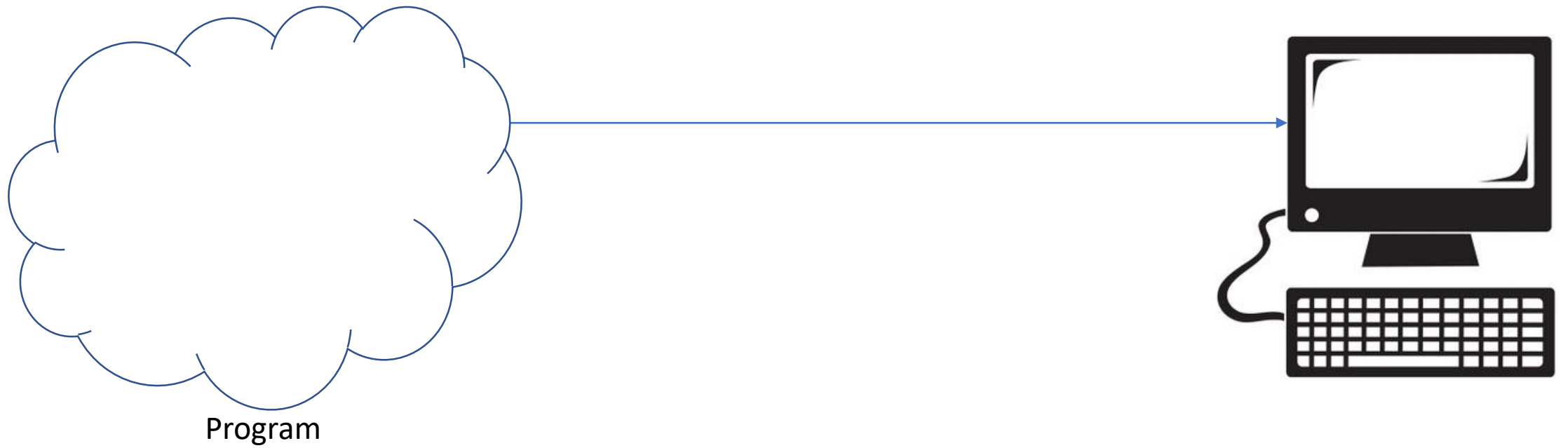
```
int main() {  
}
```



Input and output



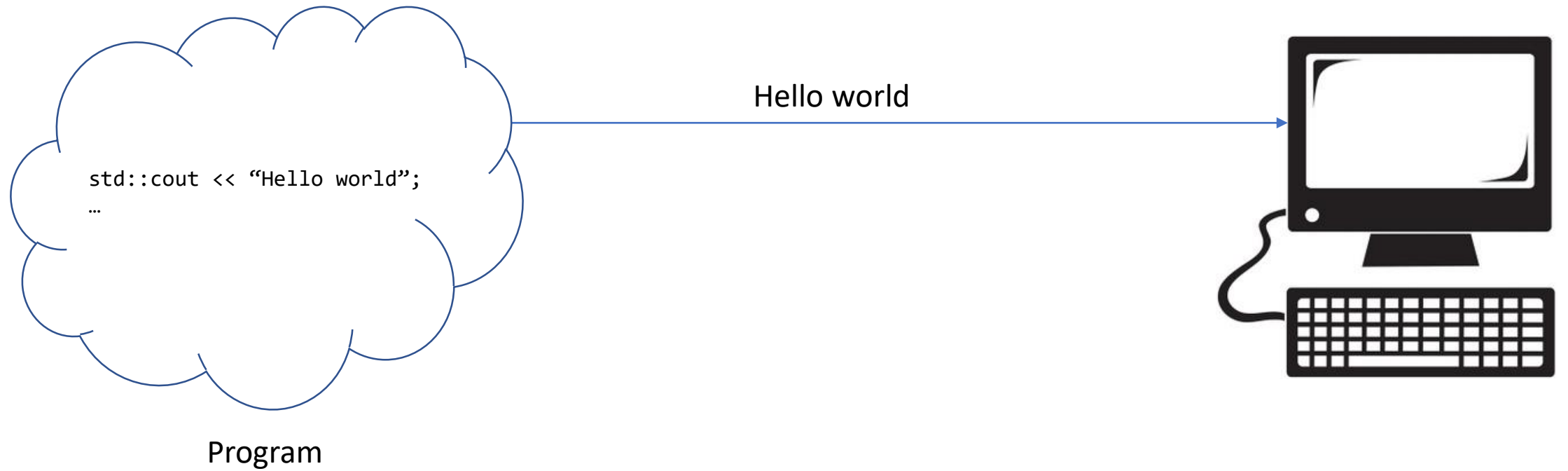
Output buffer



Cout

```
int main() {  
    std::cout << "Hello world";  
    ...  
}
```

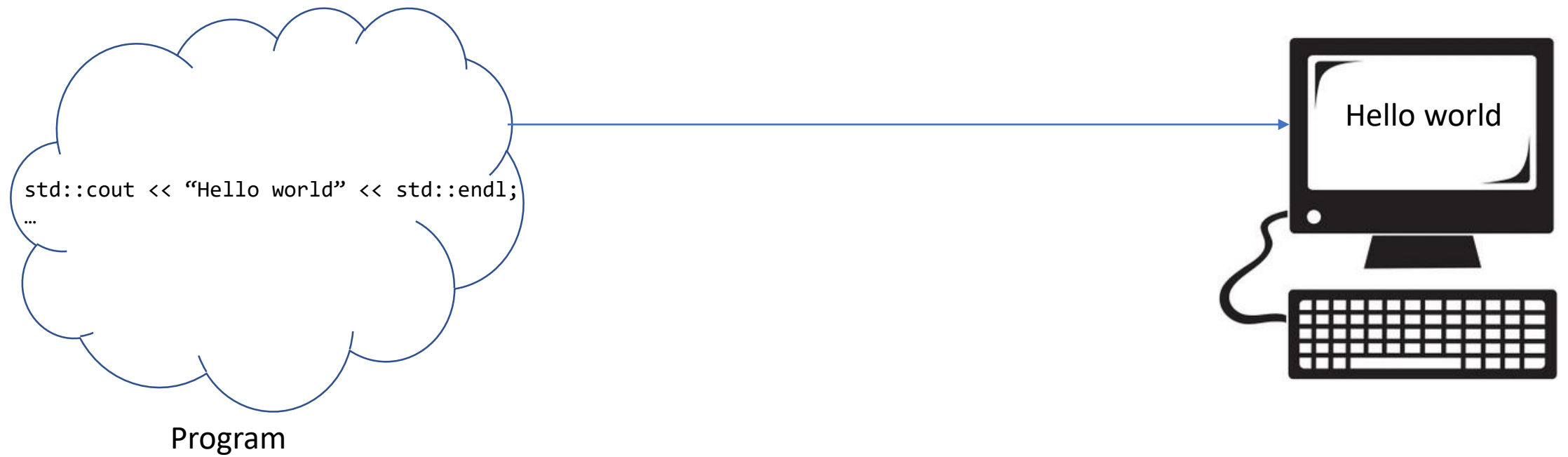

Output buffer



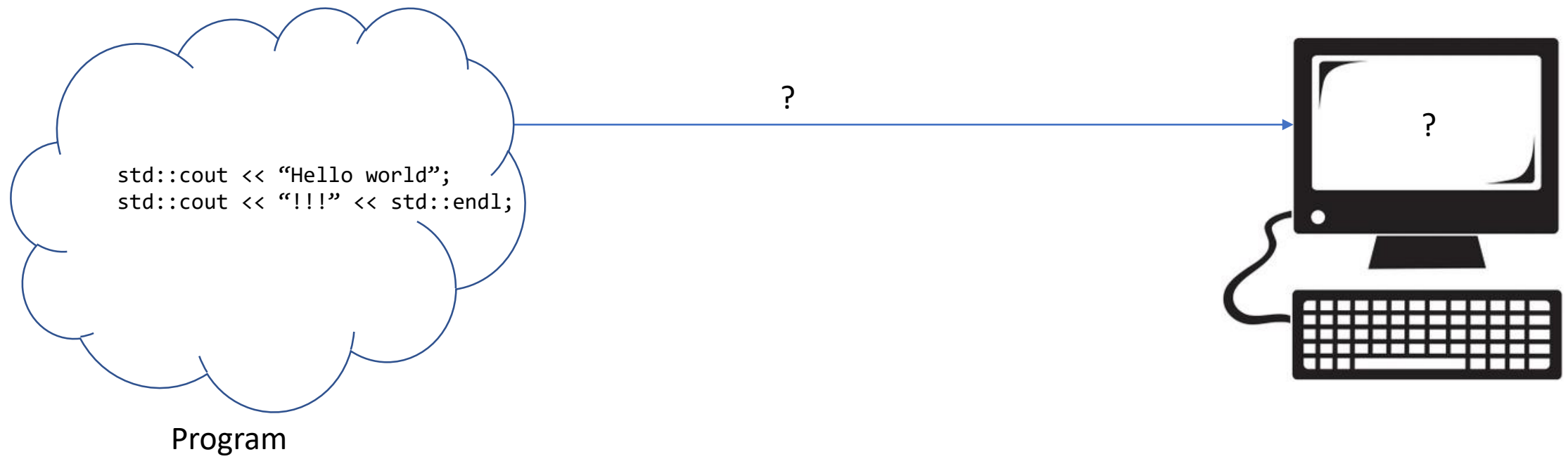
Flush buffer

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

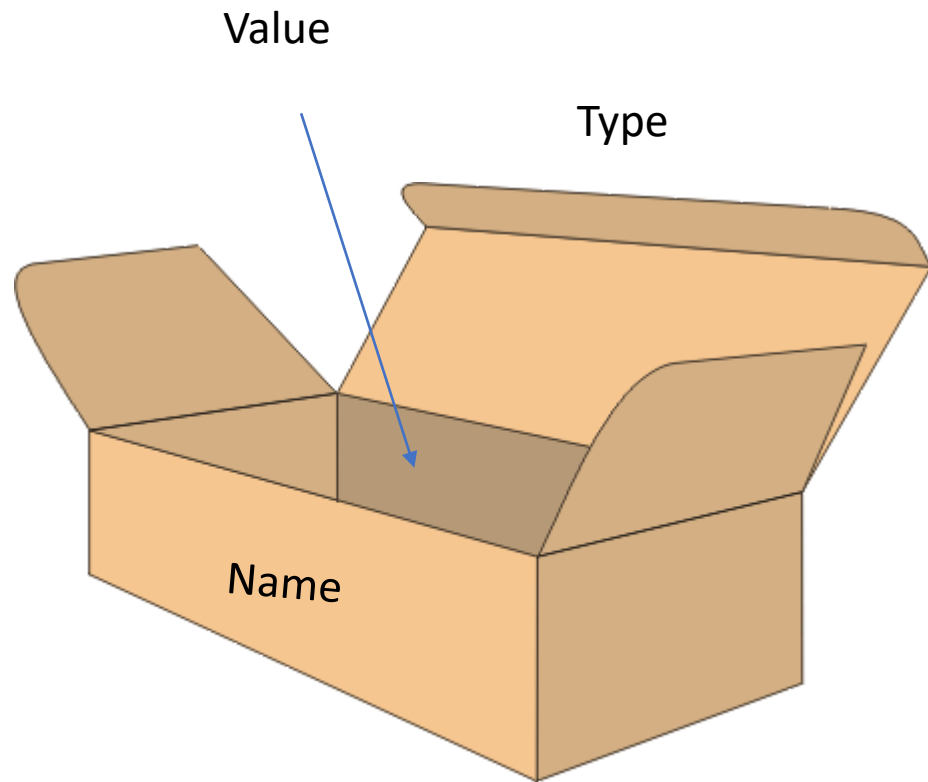
Flush buffer



Flush buffer



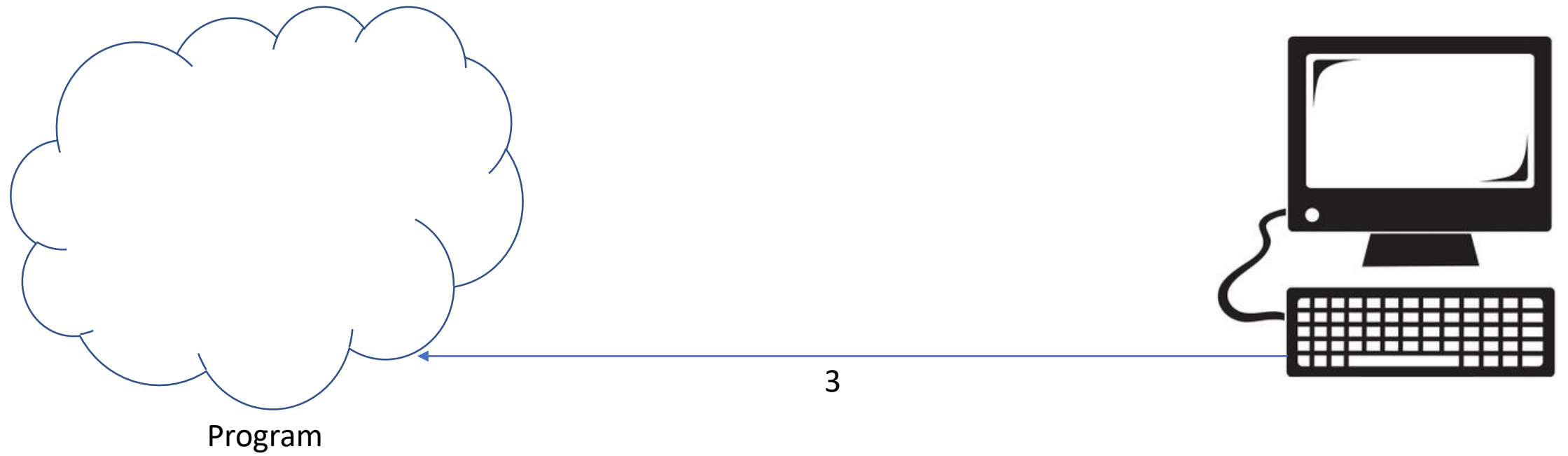
Variables



Example:

- `int x{3}`
- `double y{3.14}`
- `char z{'s'}`

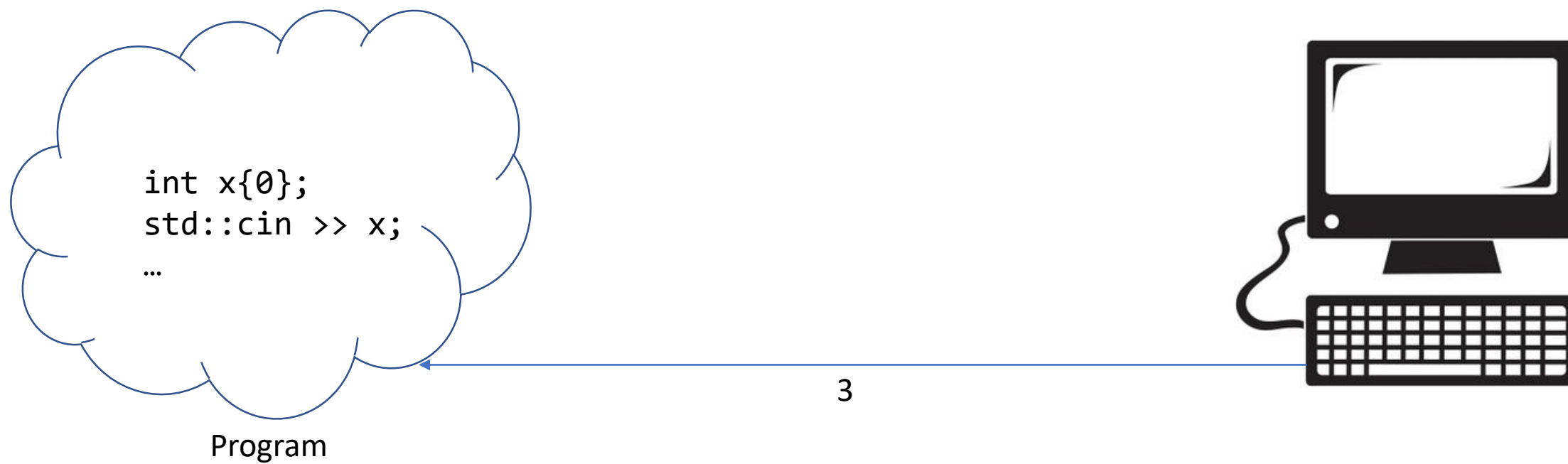
Input buffer



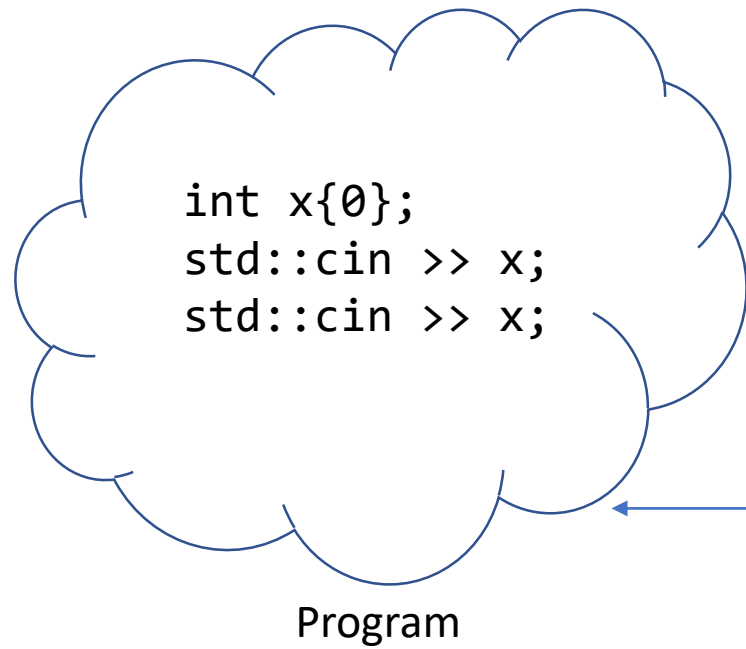
Cin

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

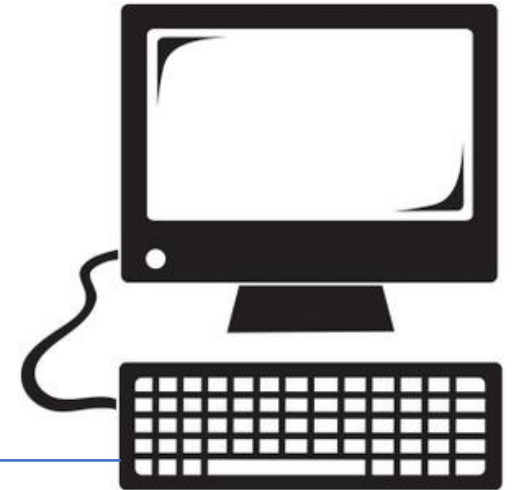
Input buffer



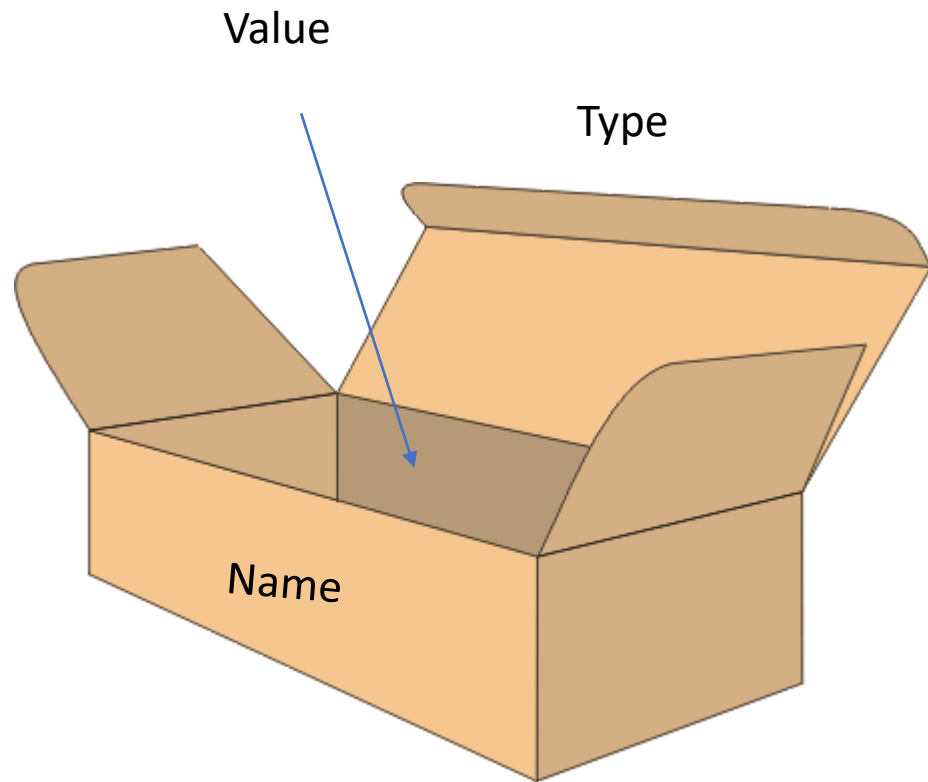
Input buffer



34 99



String

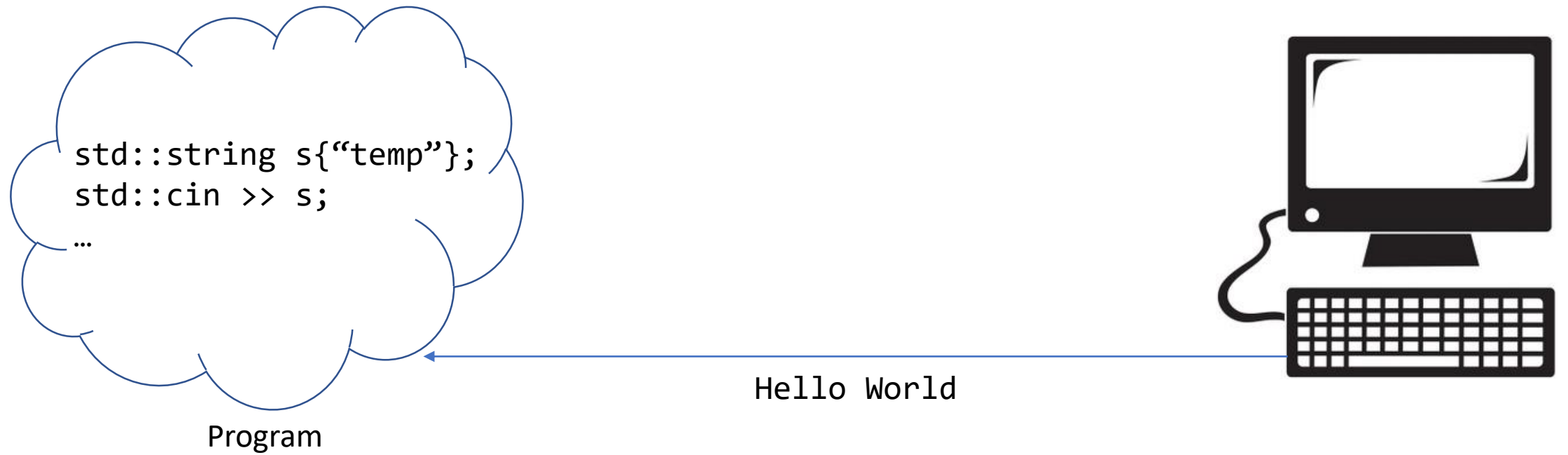


```
string s{"hello"}
```

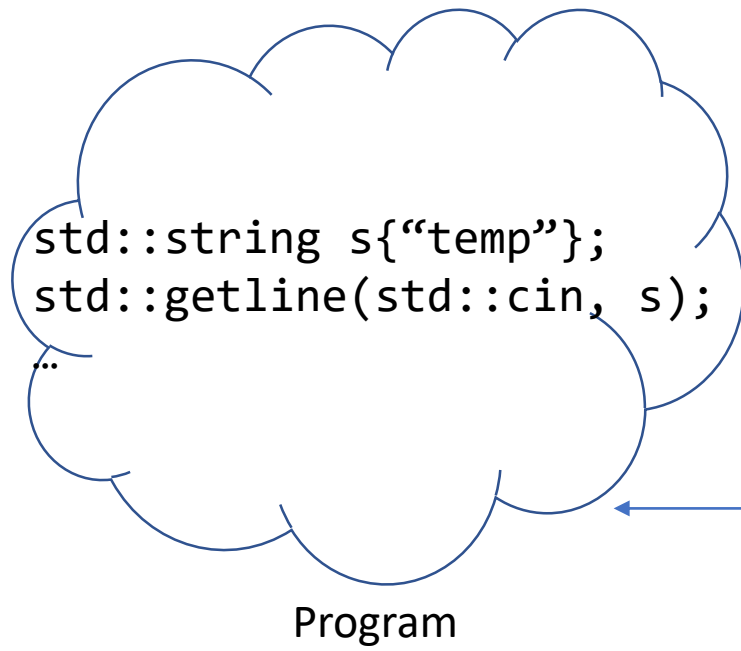
```
s.size()
```

```
s.front()
```

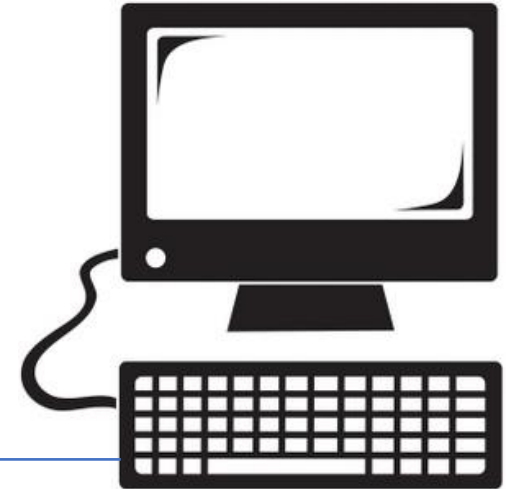
Input buffer



Getline



Hello World



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