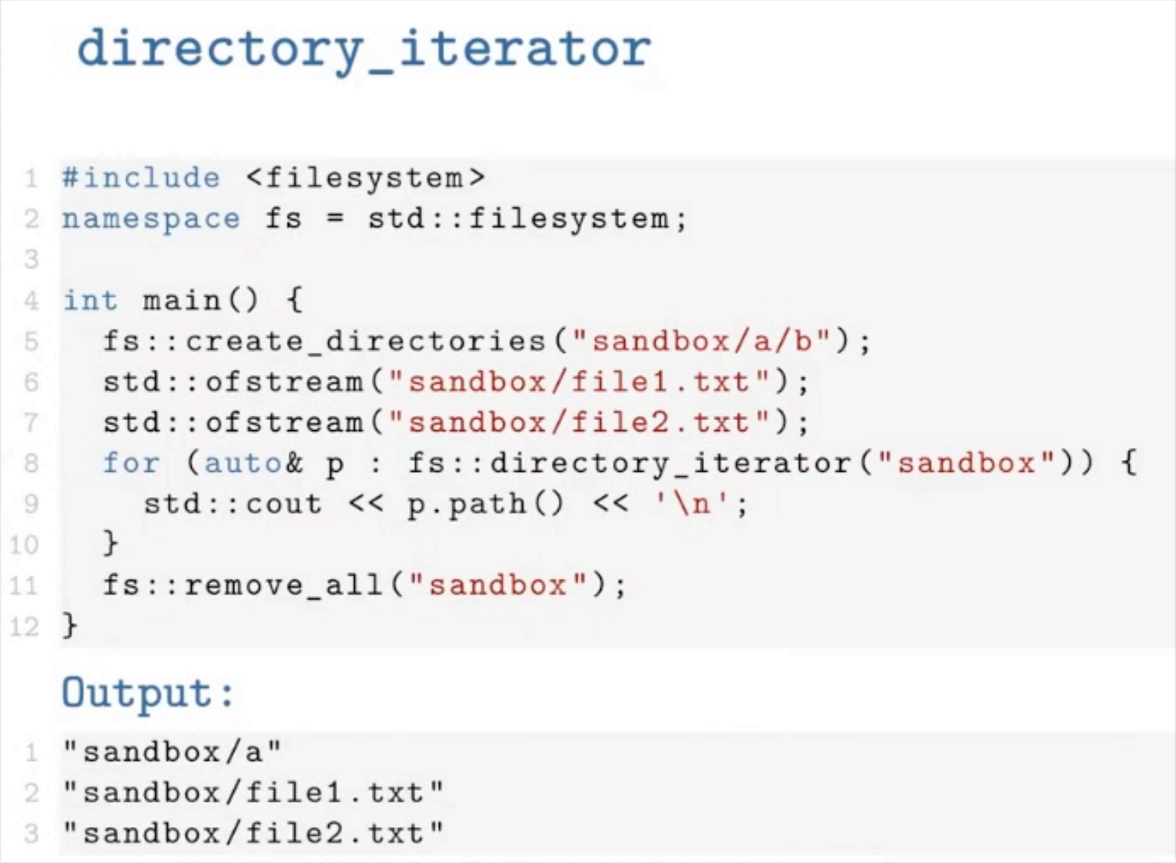
Filesystem Library

- Introduced in C++17.
- Used to perform operations on:
  - Paths
  - Regular files
  - Directories
- Inspired in boost::filesystem.



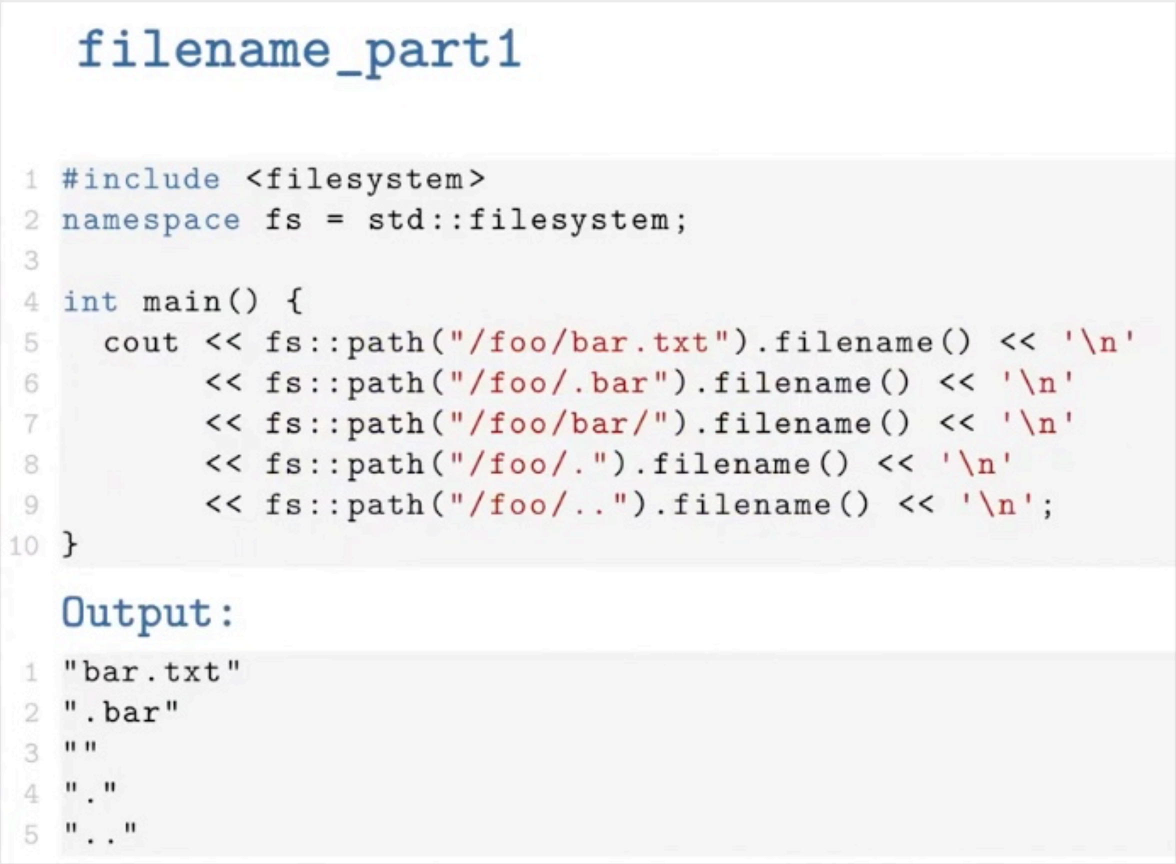
directory_iterator

```cpp
#include <filesystem>
namespace fs = std::filesystem;

int main() {
  fs::create_directories("sandbox/a/b");
  std::ofstream("sandbox/file1.txt");
  std::ofstream("sandbox/file2.txt");
  for (auto& p : fs::directory_iterator("sandbox")) {
    std::cout << p.path() << '\n';
  }
  fs::remove_all("sandbox");
}
```

Output:

```
"sandbox/a"
"sandbox/file1.txt"
"sandbox/file2.txt"
```



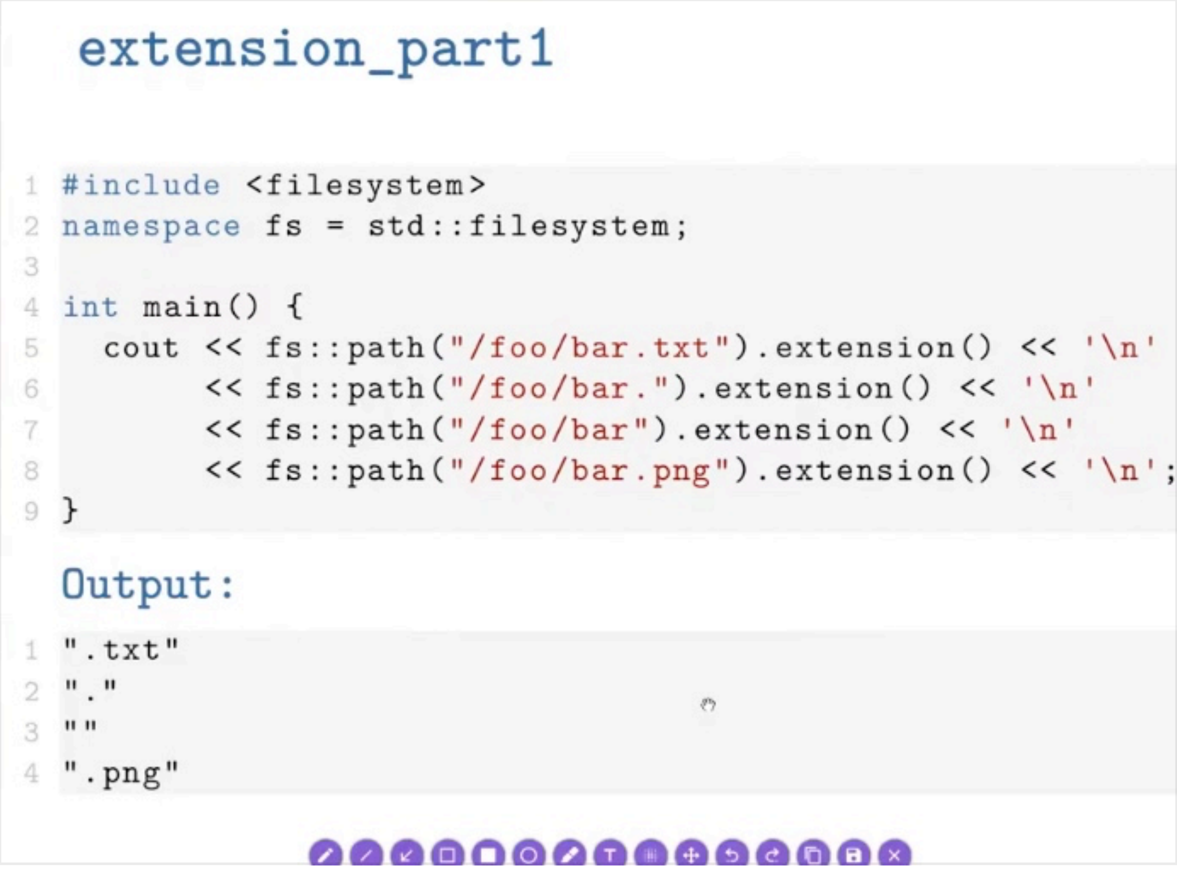
filename_part1

```cpp
#include <filesystem>
namespace fs = std::filesystem;

int main() {
  cout << fs::path("/foo/bar.txt").filename() << '\n'
       << fs::path("/foo/.bar").filename() << '\n'
       << fs::path("/foo/bar/").filename() << '\n'
       << fs::path("/foo/.").filename() << '\n'
       << fs::path("/foo/..").filename() << '\n';
}
```

Output:

```
"bar.txt"
".bar"
""
"."
".."
```



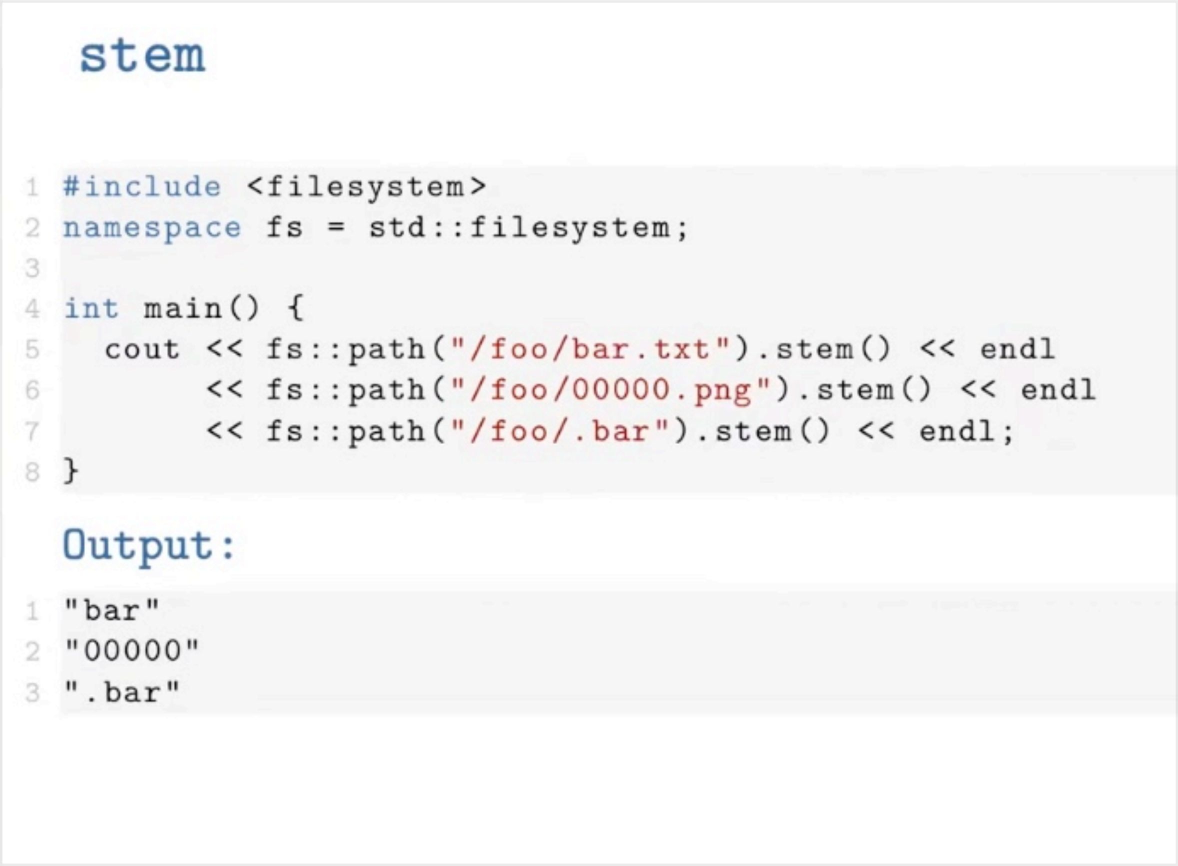
extension_part1

```cpp
#include <filesystem>
namespace fs = std::filesystem;

int main() {
  cout << fs::path("/foo/bar.txt").extension() << '\n'
       << fs::path("/foo/bar.").extension() << '\n'
       << fs::path("/foo/bar").extension() << '\n'
       << fs::path("/foo/bar.png").extension() << '\n';
}
```

Output:

```
".txt"
"."
""
".png"
```



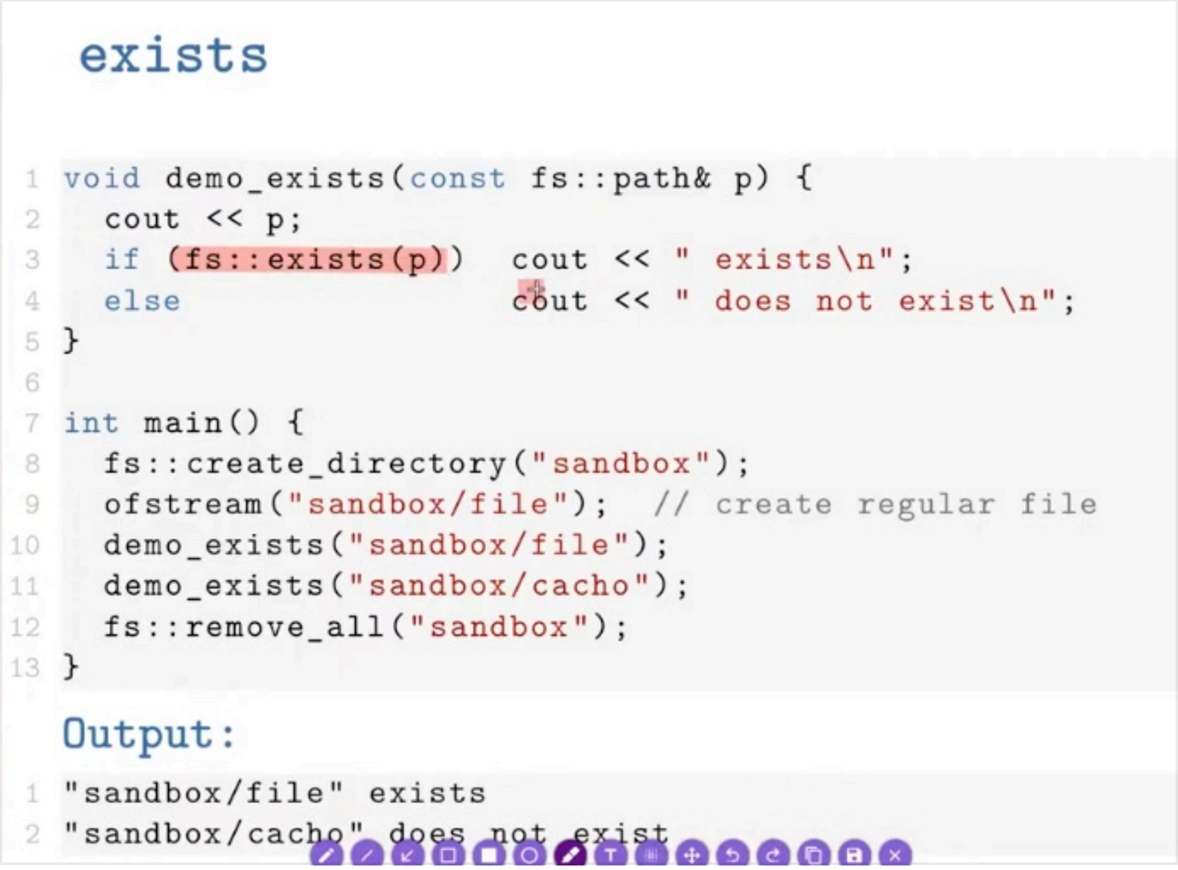
stem

```
#include <filesystem>
namespace fs = std::filesystem;

int main() {
  cout << fs::path("/foo/bar.txt").stem() << endl
       << fs::path("/foo/00000.png").stem() << endl
       << fs::path("/foo/.bar").stem() << endl;
}
```

Output:

```
"bar"
"00000"
".bar"
```



exists

```
void demo_exists(const fs::path& p) {
  cout << p;
  if (fs::exists(p))  cout << " exists\n";
  else                cout << " does not exist\n";
}

int main() {
  fs::create_directory("sandbox");
  ofstream("sandbox/file");  // create regular file
  demo_exists("sandbox/file");
  demo_exists("sandbox/cacho");
  fs::remove_all("sandbox");
}
```

Output:

```
"sandbox/file" exists
"sandbox/cacho" does not exist
```