



深蓝学院  
shenlanxueyuon.com

# C++ 基础与深度解析

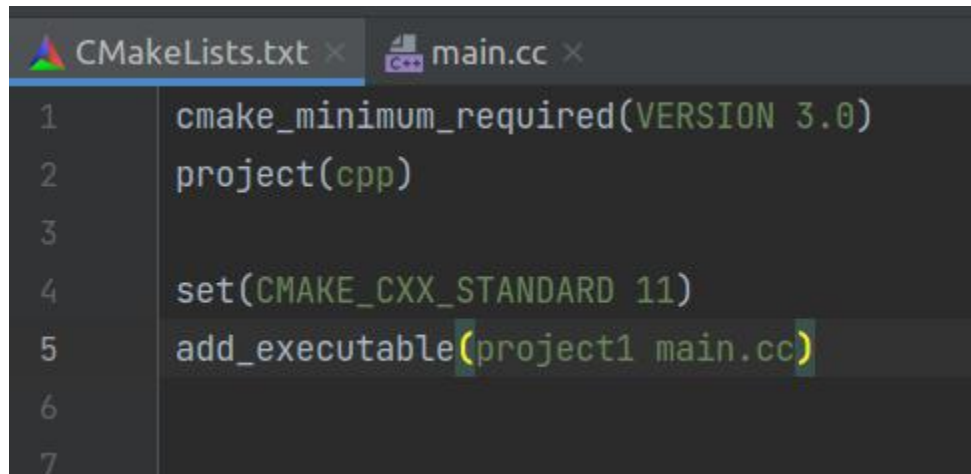


主讲人 林佐周



## ➤ 第一部分：平台与编译

1. C++标准
2. 编译器
3. 平台
4. 编码问题



```
1 cmake_minimum_required(VERSION 3.0)
2 project(cpp)
3
4 set(CMAKE_CXX_STANDARD 11)
5 add_executable(project1 main.cc)
6
7
```

## ➤ 第二部分：交互

错误输入会导致未知错误  
甚至程序崩溃

```
7   std::string opt_str[4] {" + ", " - ", " x ", " / "};
8   int input_int()
9   {
10      std::string in;
11      std::cin >> in;
12      while( in.find_first_of( s: "0123456789") == std::string::npos
13             || in.find_first_not_of( s: "0123456789") != std::string::npos){
14          std::cout << "error input, please input an integer!" << std::endl;
15          std::cin >> in;
16      }
17      return std::stoi(in);
18  }
```

## ➤ 第三部分：计时

不同平台有不同的计时方法  
建议使用标准库 <chrono>

```
20 struct Tik{
21     Tik(): start(std::chrono::steady_clock::now()){
22     double tok(){
23         return std::chrono::duration_cast<std::chrono::duration<double>>(
24             d: std::chrono::steady_clock::now() - start).count();
25     }
26     std::chrono::steady_clock::time_point start;
27 };
```

## 第四部分：简单示例

```
35 ▶ int main(int argc, char **argv)
36 {
37     // int hard = input_int();
38     // int range = input_int();
39     std::cout << "enter exercise num : ";
40     int num = input_int();
41     std::srand( seed: time( timer: nullptr));
42     while(num--){
43         int int1 = rand() % 100;
44         int int2 = rand() % 100;
45         int opt = rand() % 4;
46
47         std::cout << int1 << opt_str[opt] << int2 << " = ";
48         Tik tik;
49         int result = input_int();
50         std::cout << "cost : " << tik.tok() << " s" << std::endl;
51         // storage result ..
52     }
53     // print result ..
54
55     return 0;
56 }
```

```
project1 x
/home/lynn/other_project/cpp/cmake-build-release/project1
enter exercise num : 3
87 x 46 = 12
cost : 1.85941 s
2 / 23 = 12
cost : 2.39677 s
77 x 16 = 3
cost : 1.30261 s

Process finished with exit code 0
```



感谢各位聆听 !

Thanks for Listening

