COURSE INTRODUCTION

COURSE OBJECTIVES

- **Use** different types of advanced data structure
- **Create** program that can store data in external file rather than the memory
- **Design** program with sorting methods
- **Apply** C++ programming
- Introduction to basic **OOP** (object-oriented programming)

LEARNING PLANNING

1. Introduction to algorithm
2. Basic data types and statements
3. Condition
4. Loop
5. Array
6. Sub-programs (functions)
7. Structure

semester 1

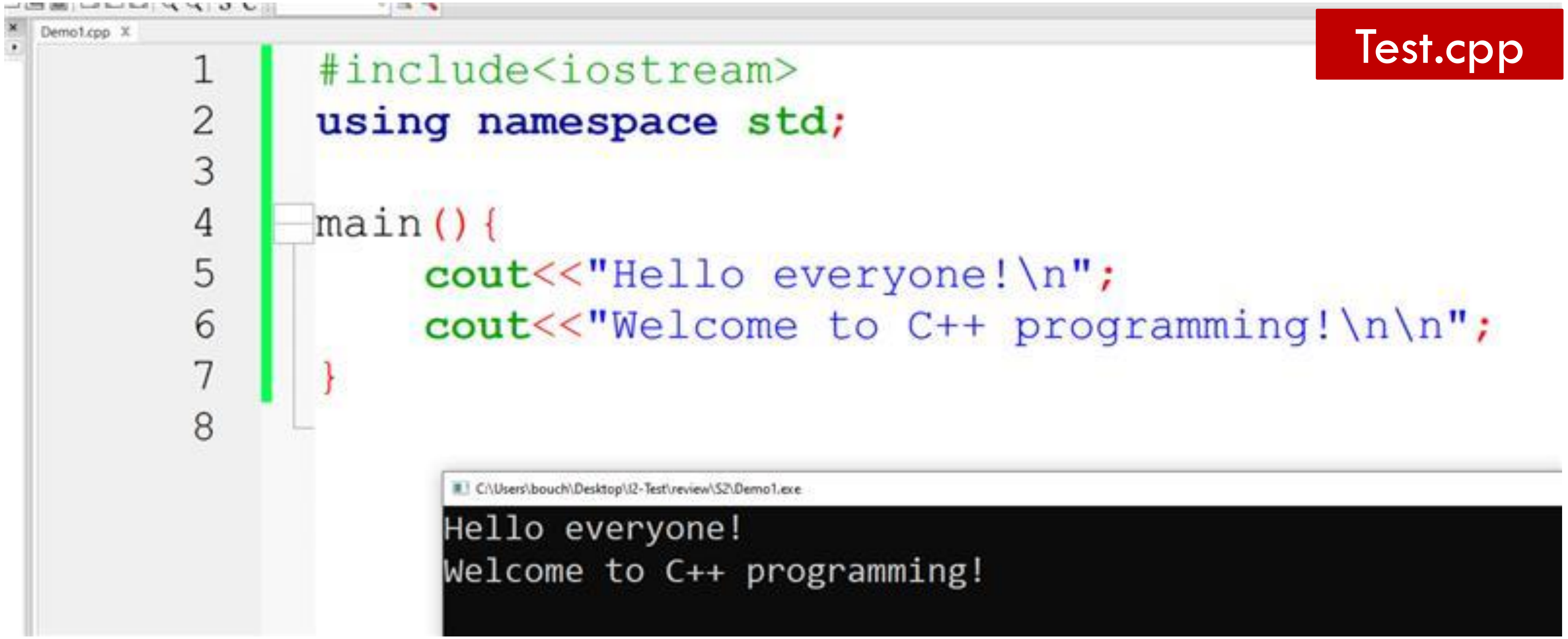
8. *Recursive*
9. File IO
10. Pointers
11. Linked Lists
12. Stacks and Queues
13. Sorting algorithms
14. Tree
15. Basic OOP

semester 2

C

C++

STRUCTURE OF C++ PROGRAMMING



Test.cpp

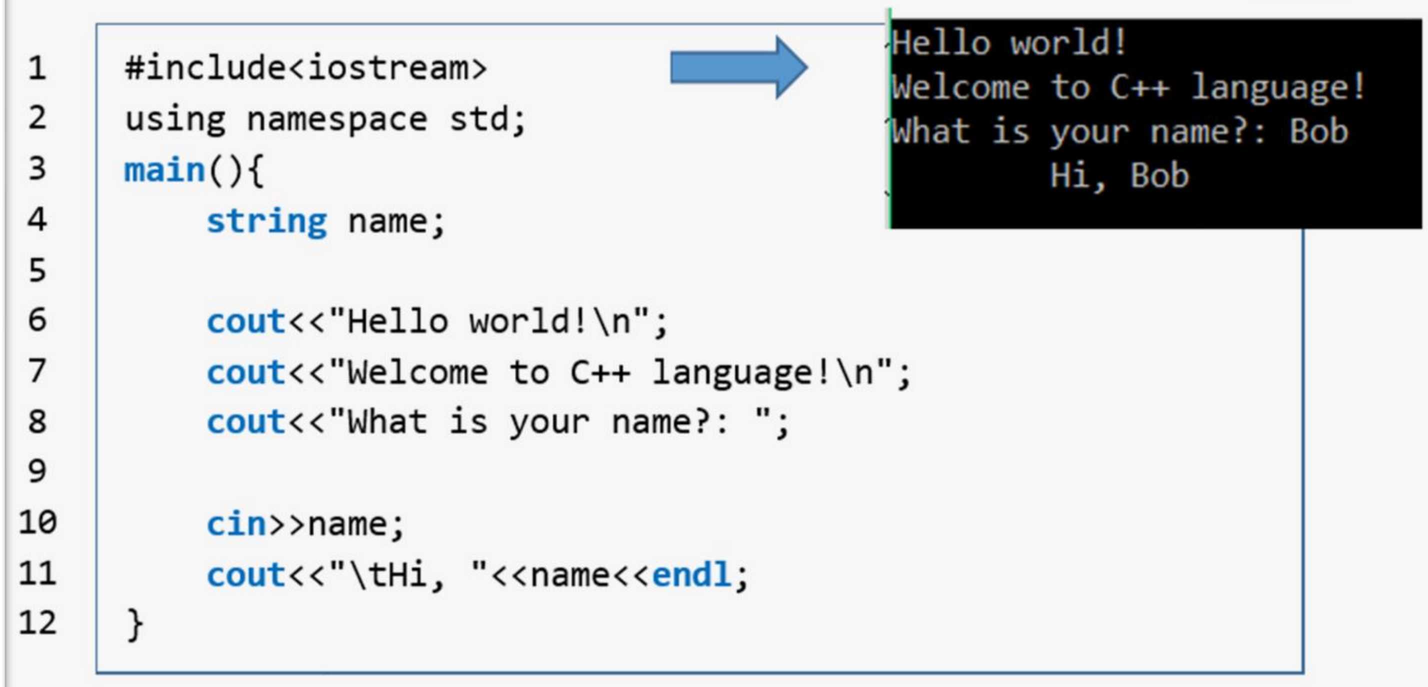
```cpp
#include<iostream>
using namespace std;

main(){
        cout<<"Hello everyone!\n";
        cout<<"Welcome to C++ programming!\n\n";
}
```

```
Hello everyone!
Welcome to C++ programming!
```

1st program in C++ programming

EXAMPLE IN C++ PROGRAMMING



```cpp
#include<iostream>
using namespace std;
main(){
    string name;

    cout<<"Hello world!\n";
    cout<<"Welcome to C++ language!\n";
    cout<<"What is your name?: ";

    cin>>name;
    cout<<"\tHi, "<<name<<endl;
}
```

```
Hello world!
Welcome to C++ language!
What is your name?: Bob
        Hi, Bob
```

Figure 1: A basic C++ program overview

Using **cin** and **cout** to get input and display