程龚

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互相介绍自己

小班做什么

- 大班部分内容的深入讨论
- 书面作业、编程训练的重难点讨论

- 教材阅读的难点答疑
- 意见建议的反馈

关于课后练习

- 书面作业
  - 每周四小班交
  - 交上周作业，取回批改后的上上周作业
- 编程训练
  - 每周末前网上提交
  - 按周历进度完成

大班部分内容的深入讨论

The List

1. Understanding the problem
2. Devising a plan
3. Carrying out the plan
4. Looking back

- Find a word (written in standard capital letters) that is unchanged when reflected in a horizontal line and in a vertical line. The word must appear in a dictionary (in a language of your choice) in order to be a valid solution.

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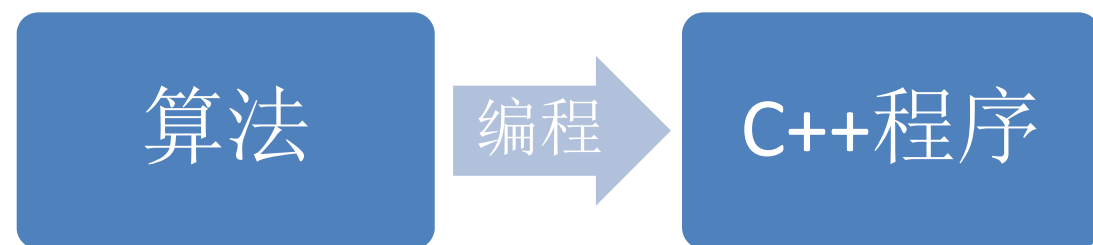
Plan

1. 输入
2. 算法
3. 输出

要把大象装冰箱，总共分几步？

算法 —编程→ C++程序

抽象　　　　　具体

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

char grade(int received_par, int min_score_par);

int main( )
{
    int score, need_to_pass;
    char letter_grade;
    cout << "Enter your score"
        << " and the minimum needed to pass:\n";
    cin >> score >> need_to_pass;
    letter_grade = grade(need_to_pass, score);
    cout << "You received a score of " << score << endl
        << "Minimum to pass is " << need_to_pass << endl;
    if (letter_grade == 'P')
        cout << "You Passed. Congratulations!\n";
    else
        cout << "Sorry. You failed.\n";
    cout << letter_grade
        << " will be entered in your record.\n";
    return 0;
}

char grade(int received_par, int min_score_par)
{
    if (received_par >= min_score_par)
        return 'P';
    else
        return 'F';
}
```

```
┌─────────────────────────┐          ┌──────────────────────────────┐
│     程序（Program）      │          │  输入数据（Input Data）       │
└─────────────────────────┘          └──────────────────────────────┘
                   ╲                              ╱
                    ╲                            ╱
                     ╲                          ╱
                      ↘                        ↙
                   ┌────────────────────────────┐
                   │    计算机（Computer）        │
                   └────────────────────────────┘
                                │
                                ↓
                   ┌────────────────────────────┐
                   │      输出（Output）          │
                   └────────────────────────────┘
```

算法 → 编程 → C++程序 → 编译 → 机器语言

抽象

具体

```
┌─────────────────┐              ┌─────────────────┐
│    C++程序       │              │    输入数据      │
└────────┬────────┘              └────────┬────────┘
         │                                │
┌────────┼────────────────────────────────┼──────────────────────┐
│        │                                │                       │
│ ┌─────────────────────┐                 │                       │
│ │ 编译器（Compiler）   │                 │                       │
│ └──────────┬──────────┘                 │                       │
│            │            │               │                       │
│            ↓            ↓               │                       │
│       ┌─────────────────┐               │                       │
│       │     计算机       │              │                       │
│       └────────┬────────┘               │                       │
│                │                         │                       │
│                ↓                         │                       │
│  ┌──────────────────────────────┐       │                       │
│  │ 机器语言（Machine Language）  │       │                       │
│  └──────────────┬───────────────┘       │                       │
│                 │                        │                       │
│                 ↓                        ↓                       │
│            ┌─────────────────┐                                   │
│            │     计算机       │                                  │
│            └────────┬────────┘                                   │
│                     │                                            │
└─────────────────────┼────────────────────────────────────────────┘
                      │
                      ↓
            ┌─────────────────┐
            │     输出         │
            └─────────────────┘
```
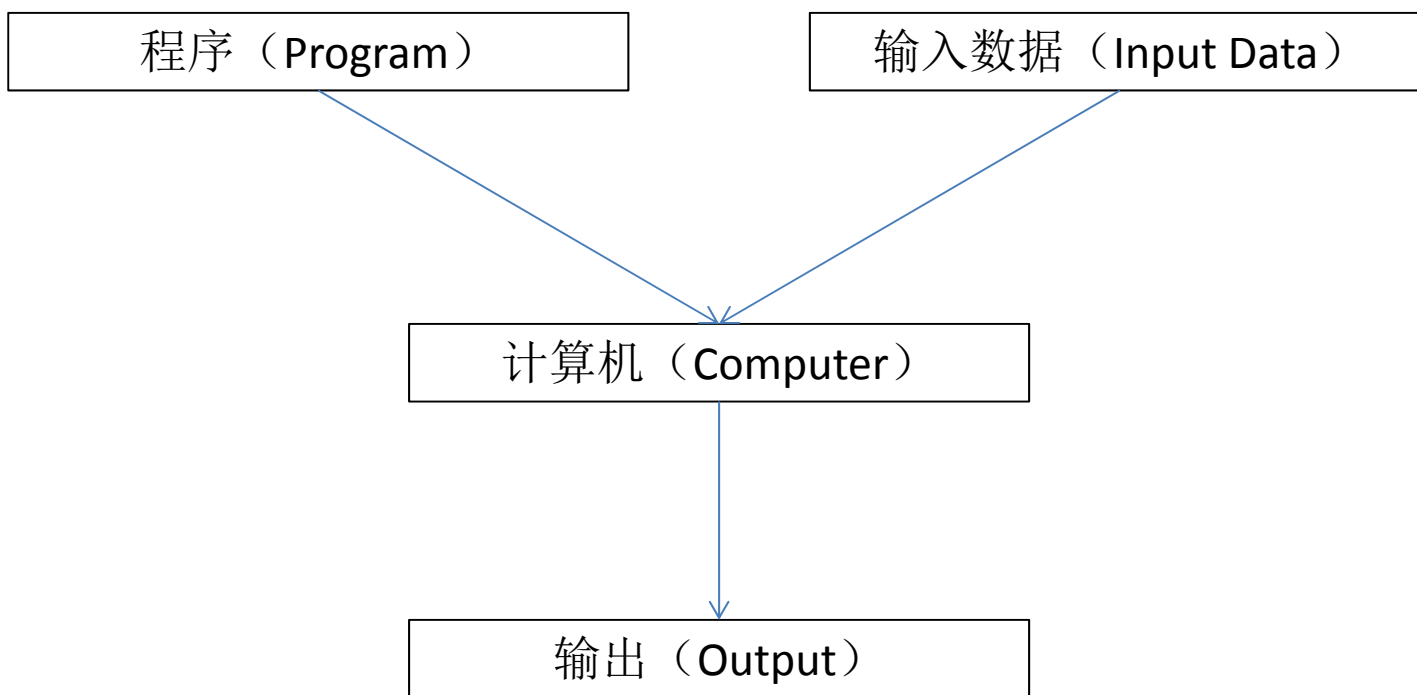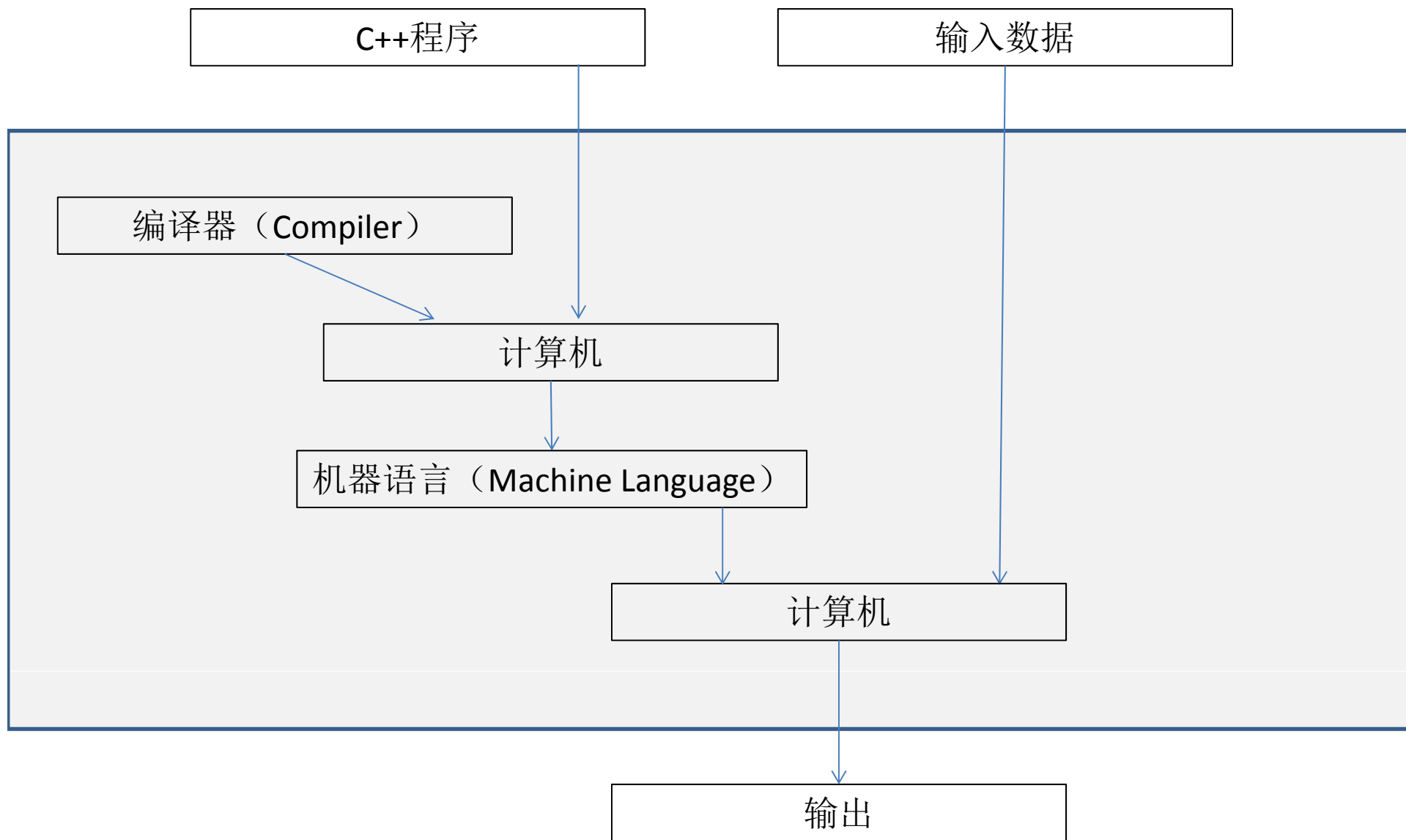
教材阅读的难点答疑

意见建议的反馈

熟悉C++编程环境