研讨课做什么

- 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

- 1班：227
- 2班：228

关于课后练习
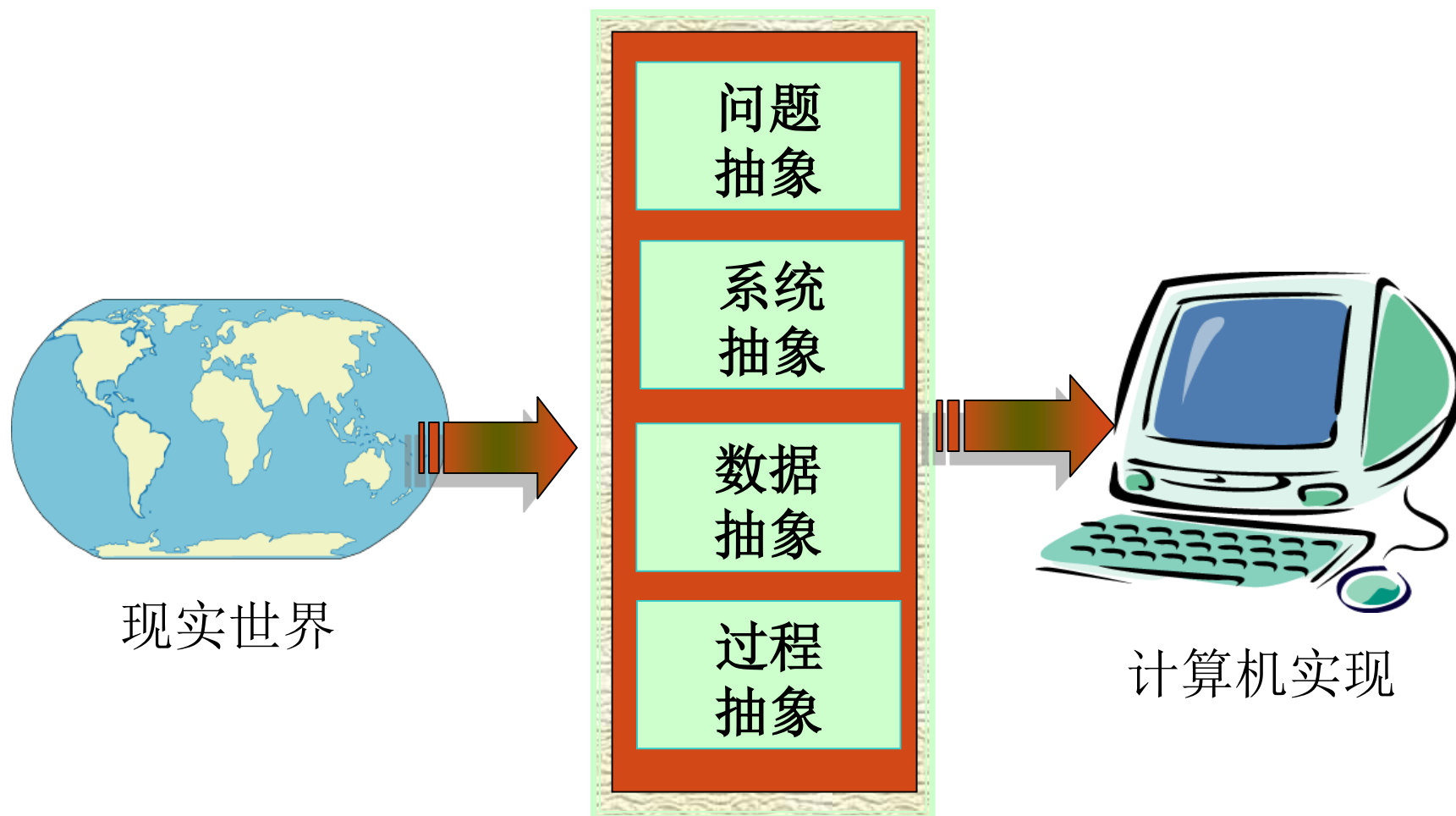
- 书面作业
  - 每周四交
  - 交上周作业，取回批改后的上上周作业

- 编程训练
  - 每周末前网上提交
  - 按周历进度完成

Discussion

What really *is* Computer Science?

计算机专业学生的基本能力

现实世界

问题
抽象

系统
抽象

数据
抽象

过程
抽象

计算机实现

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？

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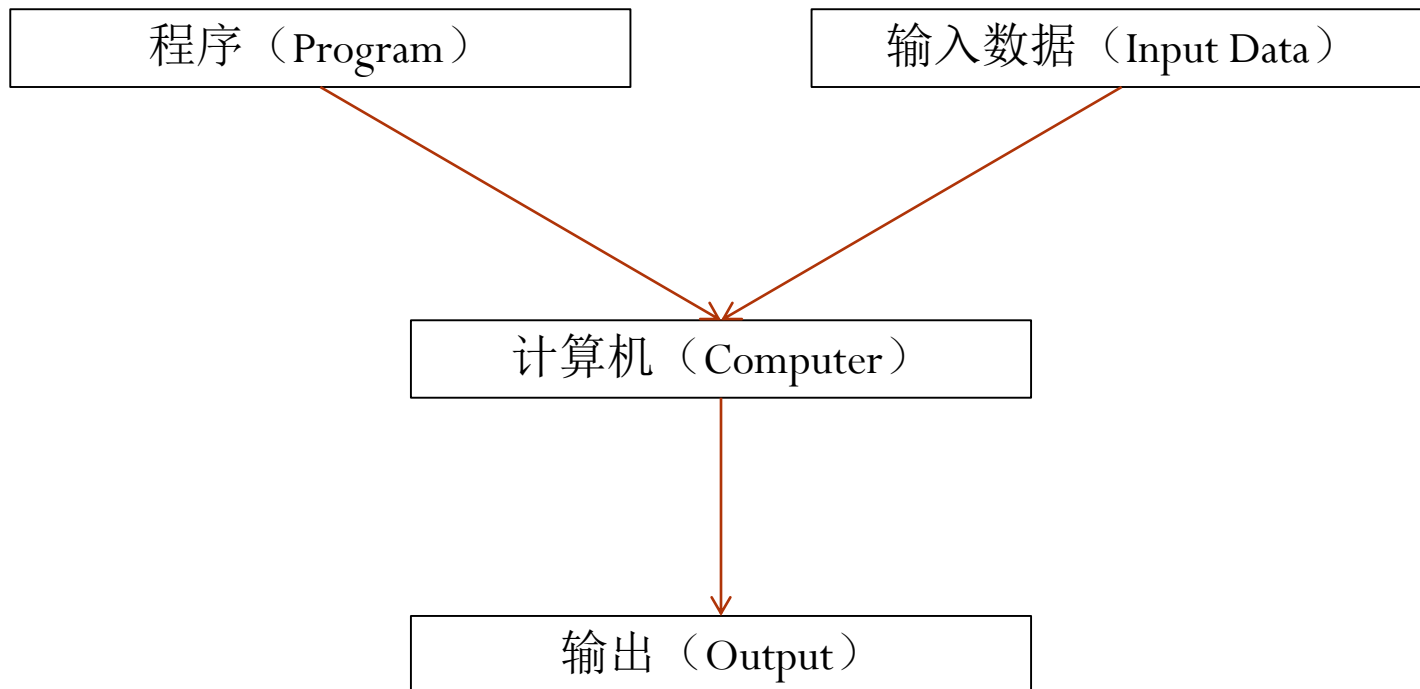
```
┌─────────────────────┐        ┌─────────────────────┐
│      C++程序         │        │      输入数据         │
└─────────────────────┘        └─────────────────────┘
            │                              │
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┌───────────────────────────────────────────────────────────────┐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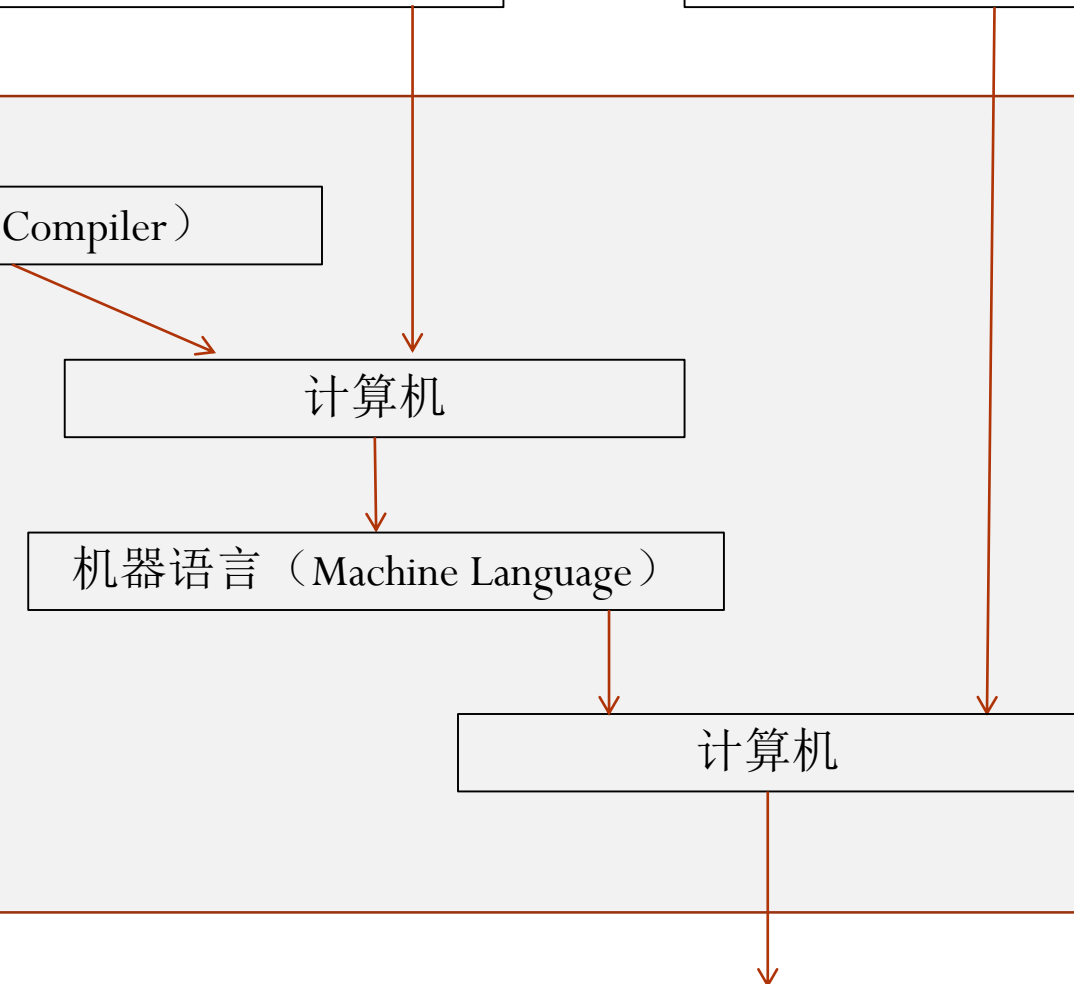
教材阅读的难点答疑

意见建议的反馈

熟悉C++编程环境