

The Design and Development of C Programming Language

Teacher: Zong Lou



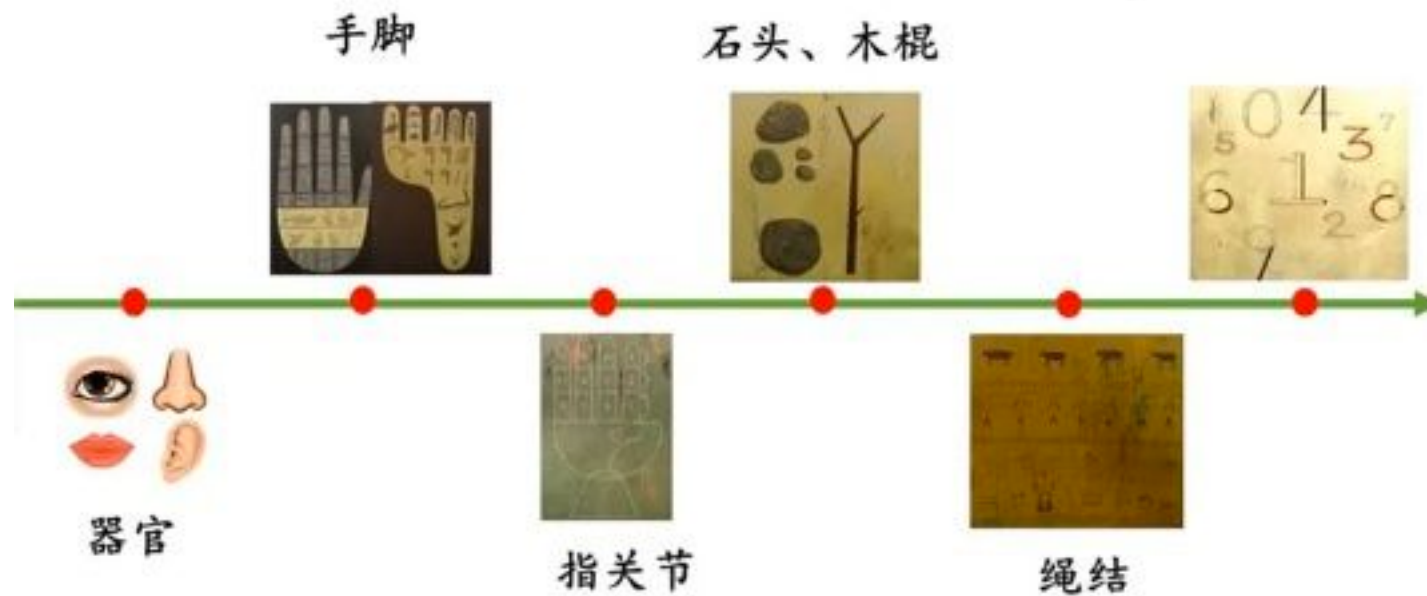
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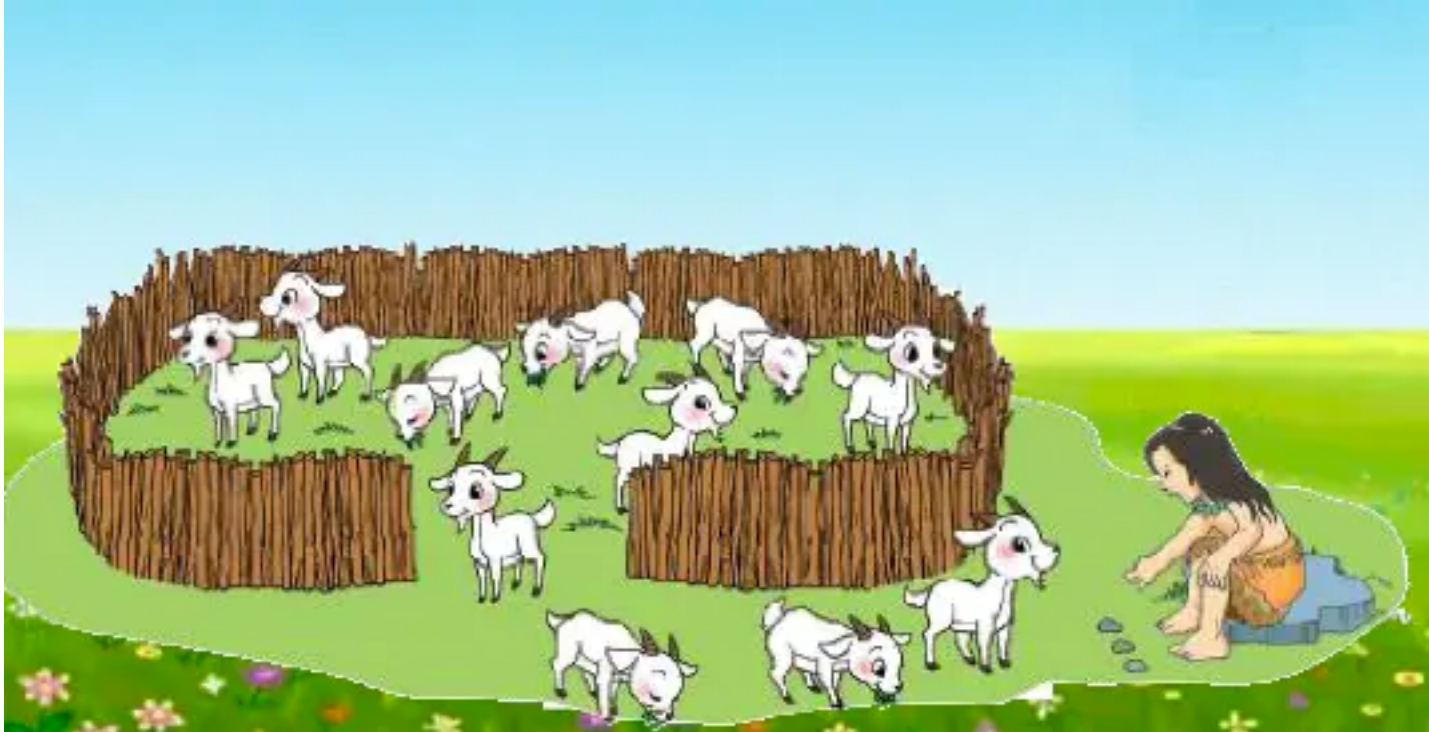
What's the C language



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The history of Computation





At the very beginning, the primitive man can record the number of animals by the stone or stick.



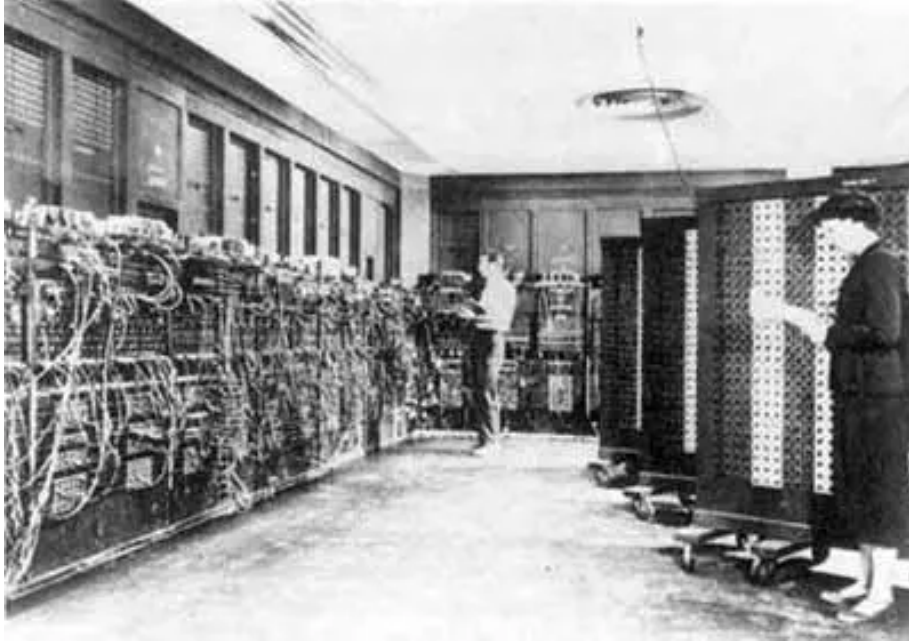
In 1623, the German scientist Schickard (契克卡德) invented the first mechanical calculator.



After that, the France physicist Pascal (帕斯卡) improved the calculator in 1652.



The German mathematician **Leibniz** (莱布尼茨) make the calculator can compute multiplication and division.



Until to 20th century, global population increase quickly because of the development of science and technology. At that time, people need more complicated computation. So the world's first electronic computer birthed in the University of Pennsylvania in the U.S in 1946.

Now, this is the age of technology.

modern computer technology

network technology

database technology

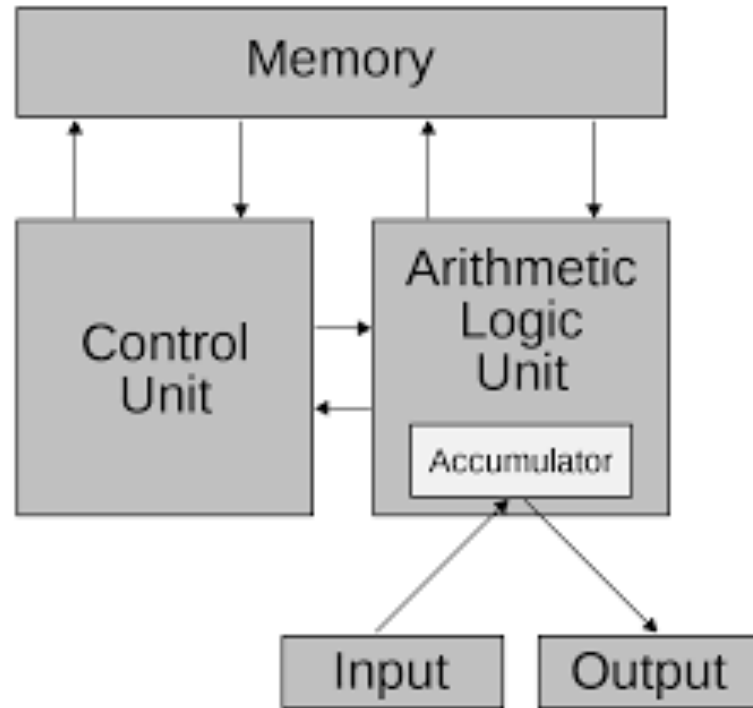
communications technology

Develop rapidly



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Modern Computer Architecture



The modern computer is based on the von Neumann architecture.

But there is no definite way to differentiate code and data that is resident in memory in it.

How to communicate with the computer?



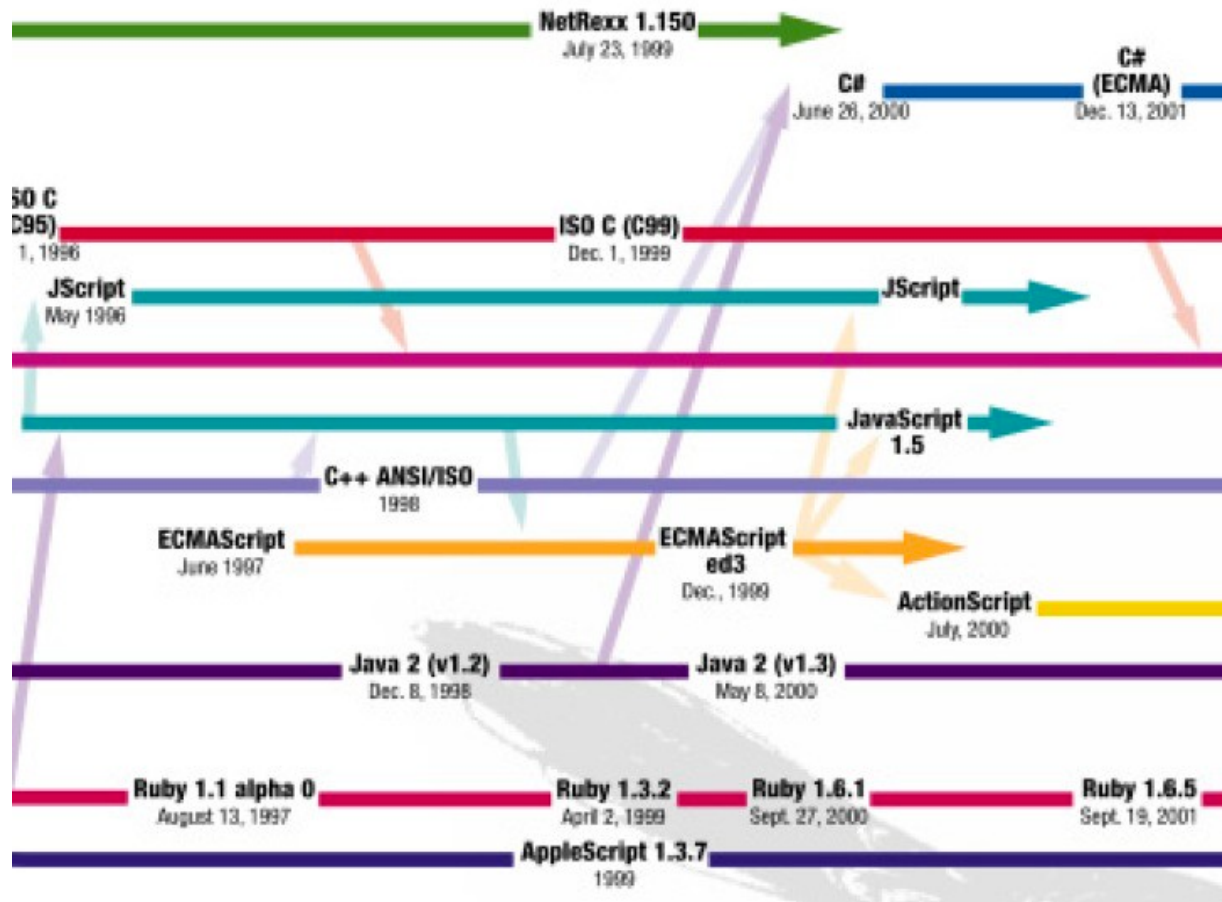
For example, how can a Chinese people communicate with a Japanese.

1. Record the words in Chinese.
2. Translate it into Japanese.
3. Send the translated words.





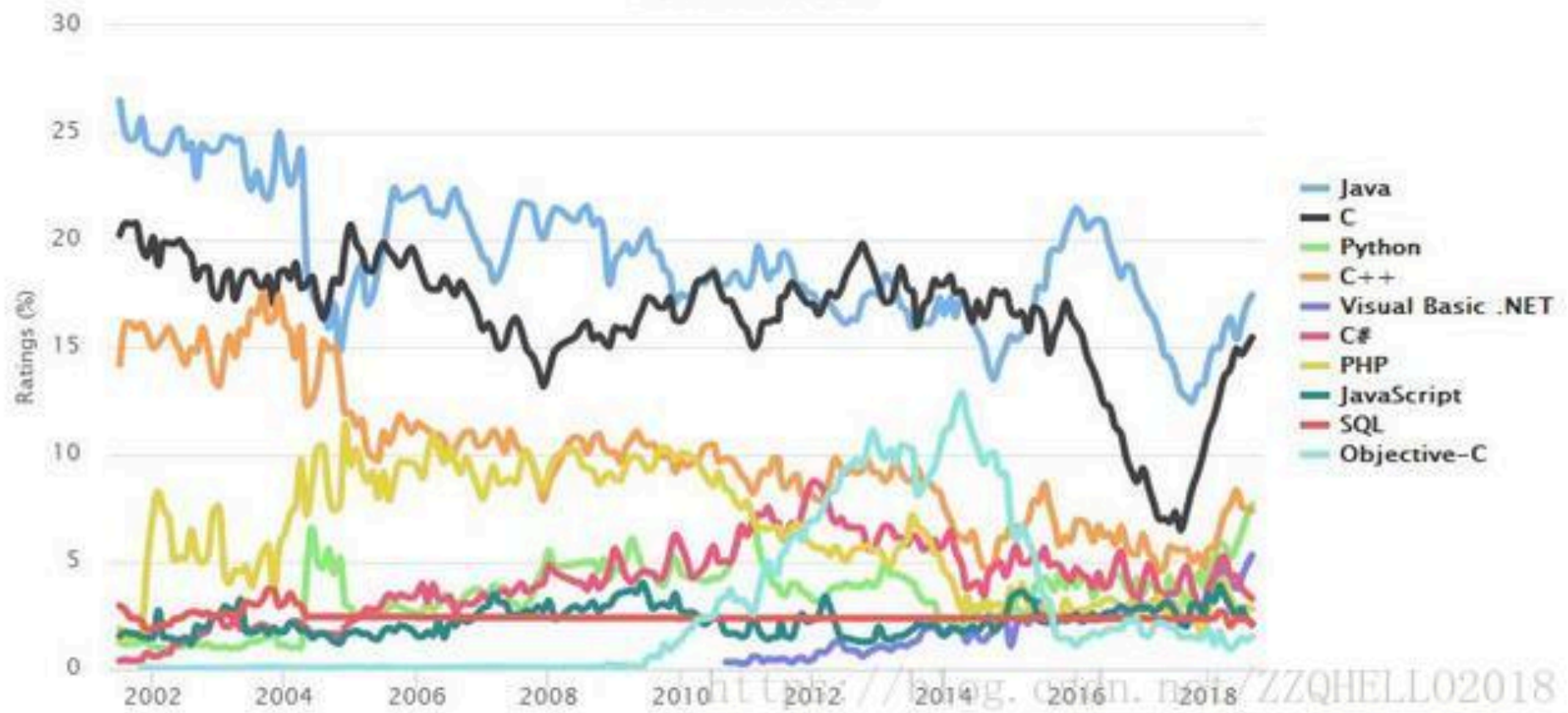
If we want to communicate with computer and control it to do something, we should “speak” programming language.



Now there are more than 2,500 documented programming languages. This timeline includes fifty of the more than 2500 documented programming languages.

TIOBE Programming Community Index

Source: www.tiobe.com



Java and C are the most stable languages in the industry.

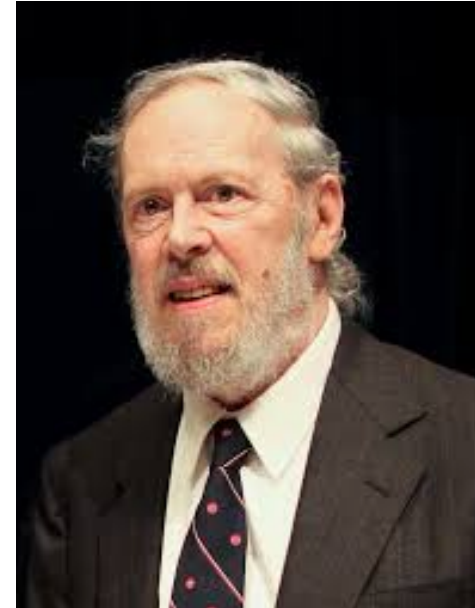


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The birth of C



Ken Thompson



Dennis M. Ritchie

The two super game player.

The birth of C

In 1969, Ken's dream was travelling the space, so he designed and develop a game called "Space Travel". In 1971, Dennis joined the development of this game.

At that time, the game development was more costly. They have to develop it on a small machine called "PDP-7", it was free but had not operating system。



They were developing the UNIX os
in Bell Labs .

Before the development
of the game, they decided
to design a operating
system and called it as
“UNIX”.

But low-level language is
efficient, so they
designed the C
programming language.

The standard of C

In 1978, published the first book named <The C Programming Language>.

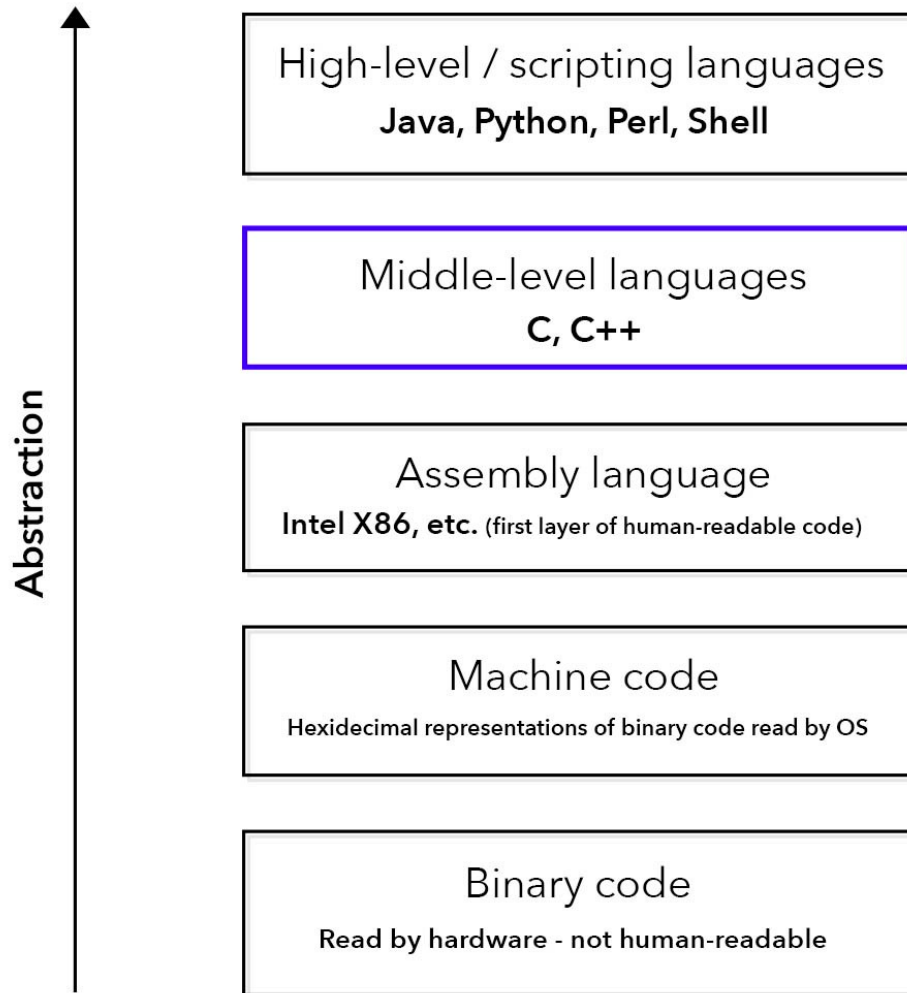
In 1982, the American National Standards institute established a C standard committee.

In 1989, the first standard was published, called C89.

In 1990, the ISO accepted it and renamed it as C90.

In 1999, the ISO improved it and published it as C99.

Why to study the C language



The C is a high-level language, but it not purely high level and it operate efficiency.

We can know the basic principle of computer by learning the C. Many popular language were designed with the thinking and grammar of C, such as Java.

```
/*  
 * File: hello.c  
 * This program prints the message "Hello,world." on the screen.  
 */  
#include <stdio.h>  
int main()  
{  
    printf("Hello,world.\n");  
    return 0;  
}
```



After-class assignments

Q1. Programming question

Write code to print some words what you want to say on the screen.

Q2.Short-answer question

What is the application domain of C language, or we can use the C to do what?

Q3.Optional question

How the C language works?



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Goodbye!



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