

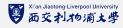
DTS202TC Foundation Of Parallel Computing Tutorial 1

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Outline



C Programming Language Review

Setup and Demo

Hello World



```
#include <stdio.h>
/* The simplest C Program */
int main(int argc, char **argv)
{
    printf("Hello World!\n");
    return 0;
}
```

Compiling



- Compiling/Building process: gcc hello.c -o hello
 - Command: gcc <options> <source_file.c>
 - Options:
 - * -Wall: Shows all warnings
 - * -o output_file_name
 - * -g: Include debugging information in the binary.
- Compiler Tool
 - gcc (GNU Compiler)
 - icc (Intel C compiler)

Makefile



```
hello:
    gcc -g -Wall hello.c -o hello

pth:
    gcc -g -Wall hello_pth.c -o hello_pth

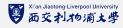
clean:
    rm -f hello hello_pth
```

Differences between C and C++



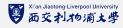
С	C++
C supports procedural programming paradigm	C++ supports both procedural and object oriented programming paradigms
C uses functions for input/output. For example <i>scanf</i> and <i>printf</i> .	C++ uses objects for input output. For example <i>cin</i> and <i>cout</i> .
C provides <i>malloc()</i> and <i>calloc()</i> functions for dynamic memory allocation, and <i>free()</i> for memory deallocation.	C++ provides new operator for memory allocation and delete operator for memory de-allocation.

More C Tutorials



https://www.tutorialspoint.com/cprogramming/index.htm

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