



C

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C +

- qq 2820047809 (Trdthg)

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C

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OI-Wiki

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语言入门详解
C Programming Language In Detail

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《C#语言入门详解》全

嵌入式C语言

手把手编程

100道

13.2万 969

C语言经典100题（手把手

- C
- IDE /
- C /
-

```
#include <stdio.h>

int main() {
    printf("Hello World ");
    return 0;
}
```



C

1. C
 - C
2. C
3. C
4. / / ...



C

1.

■

■ gcc

■ CMD

2.

■

■

■

{ nano +

2.

- Dev C++



- VS



Visual C++ 6

- - gcc

C / Cpp & .^[1]

Logo

Linux **gcc** GNU  `apt install gcc`

Windows **gcc** MinGW^[2]  **MinGW-w64**
A complete runtime environment for GCC & LLVM
for 32 and 64 bit Windows ` ` or Dev C++

Windows **CL** MSVC  VS

All **clang** Clang & LLVM  `apt install clang` VS

1. Binutils GCC Glibc

2. Minimalist GNU for Windows

1. Dev C++ VS



+ + + +

- IDE
- vscode



2.

MinGW (gcc) MSVC (cl)

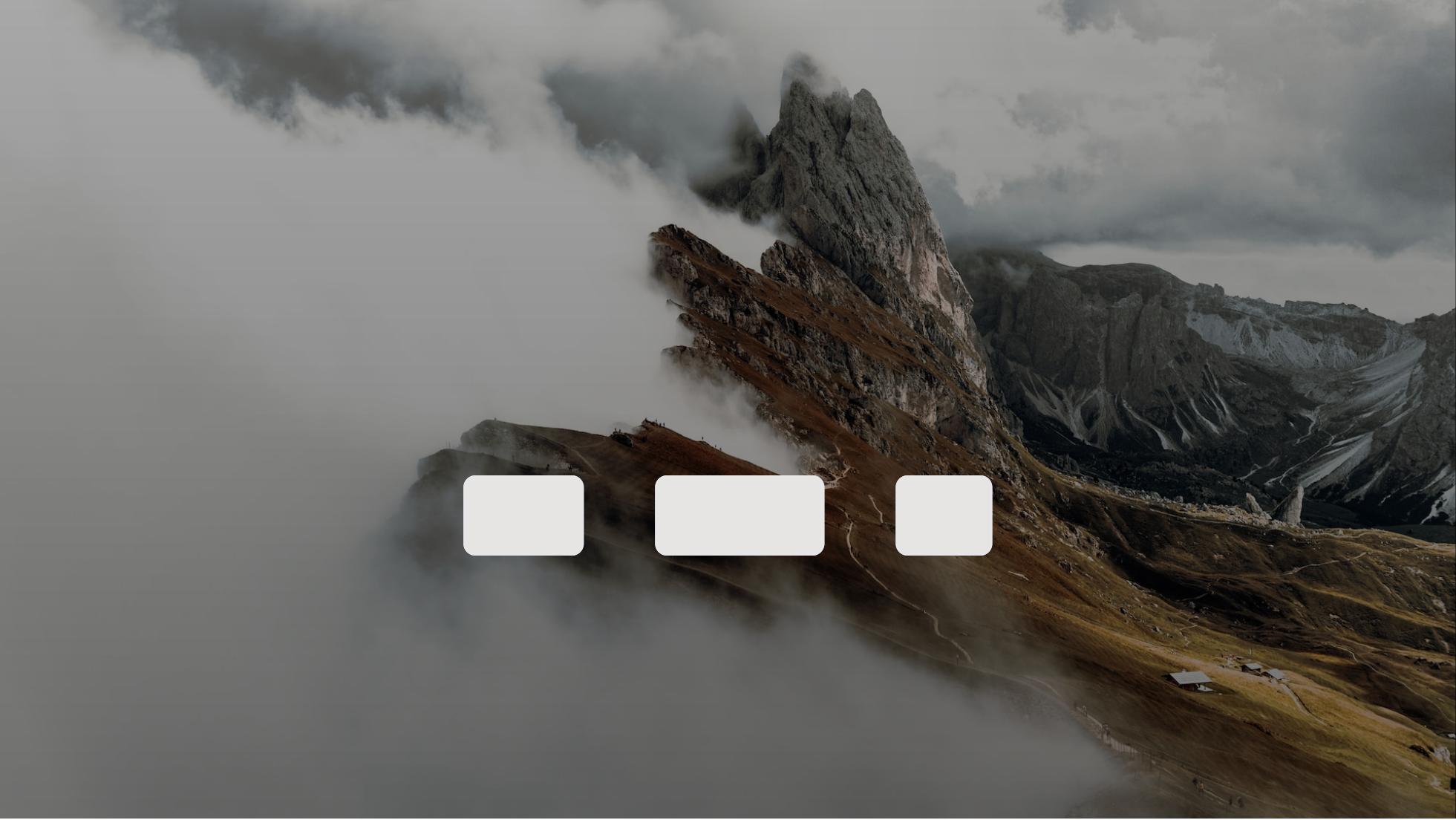
-
- (+)

3. gcc

- cph
- c/c++

C

-
-
-
- |
- IDE /
- & / /
- & IO &
- malloc
- Git / Github
- Markdown / Editor



C

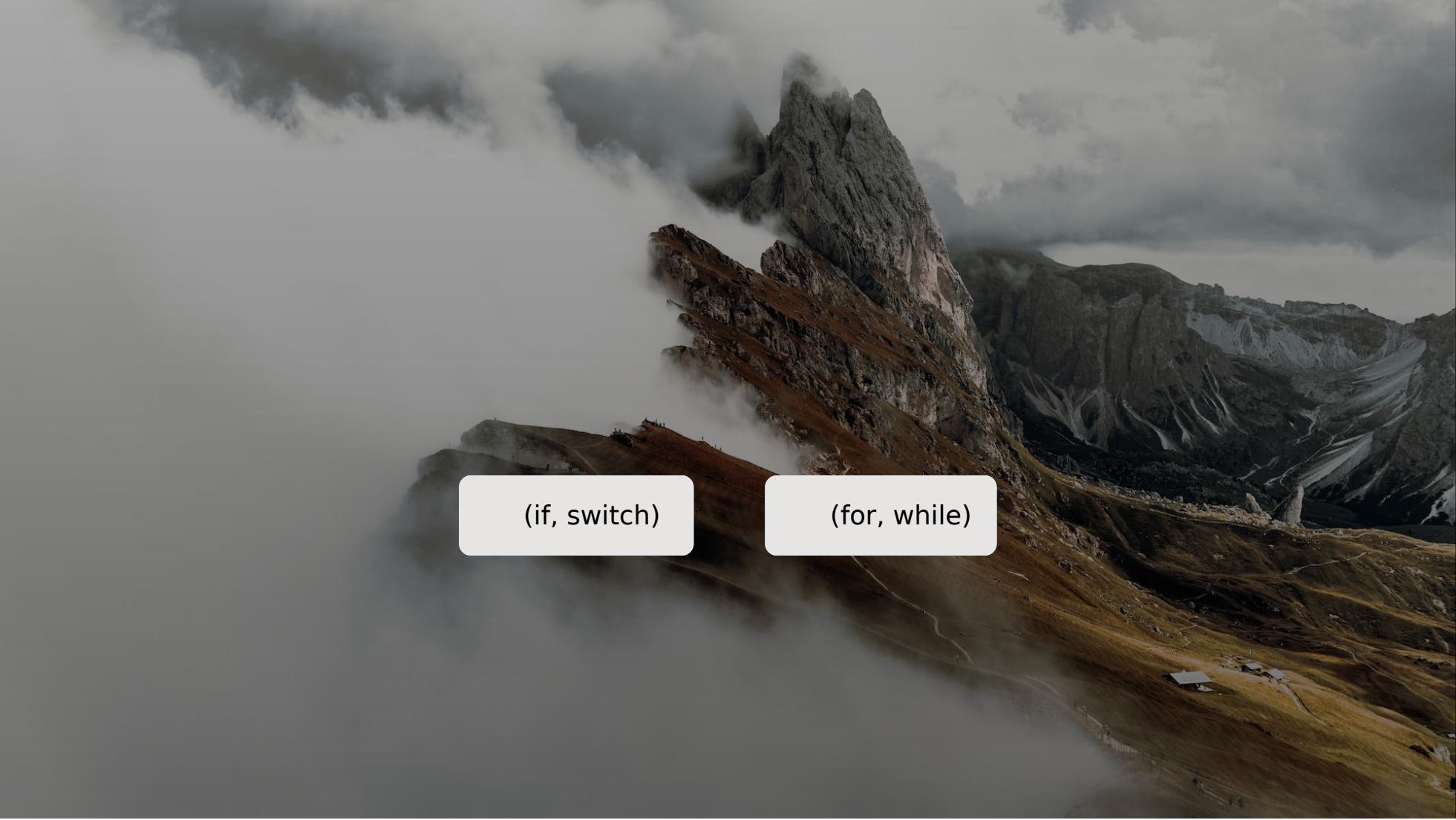
```
char a1 = 127;      // 8 0000 0000 -128 - 127
short a2 = 1;       // 16
int a3 = 0;         // 32
long a4 = 0;        // 64
long long a5 = 0;   // 128 0000 0000 0000 0000 0000 0000 0000

unsigned char b1 = 255; // 8
unsigned short b2 = 1; // 16
unsigned int b3 = 0; // 32
unsigned long b4 = 0; // 64
unsigned long long b5 = 0; // 128
```

```
float c1 = 1.0;      // 32
double c2 = 1.0;     // 64
long double c3 = 1.0; // 128
```

```
char c1 = 'a';
char c2 = '\0';
```

ASCII

The background is a wide-angle photograph of a mountain range. In the center, a sharp, rocky peak rises, its upper portion hidden behind a dense cloud. To the left, a steep slope covered in brown vegetation descends towards a valley floor. The sky is filled with heavy, grey clouds.

(if, switch)

(for, while)

if

```
if (xxx) {  
    ...  
} else if (xxx) {  
    ...  
} else {  
    ...  
}
```

```
if (i == 0)  
    printf("      \n");  
else if (i == 1)  
    printf("      \n");  
else  
    printf("      \n");
```

```
#include <stdio.h>  
int main() { // scope 0  
    int i = 0;  
  
    { // scope 1  
        int a = 0;  
        printf("%d", i);  
    }  
  
    printf("%d", a);  
  
    { // scope 2  
        int b = 0;  
        printf("%d", i);  
    }  
  
    return 0;  
}
```

switch

FSM

```
switch (i)
{
    case 1:
        statement1;
        statement2;
        break;
    case 2:
        statement;
        break;
    ...
    default:
        statement;
}
```

```
#include <stdio.h>
int main() {
    return 0;
}
```

for

```
for (      ;      ;      ) {  
    ...  
}  
  
for (;;) {  
    //  
}
```

while

```
while (      ) {  
    ...  
}
```

Break Continue

```
#include<stdio.h>  
int main() {  
    for(int i = 0; i < 5; i++) {  
        if (i == 3) {  
            continue; //  
            break;    //  
        }  
        printf("%d\n", i); // 0 1 2  
    }  
}
```

1.

$f(x)$

$y = |x|$

```
#include <stdio.h>
```

```
int main() {
```

```
    return 0;
```

```
}
```



2.

```
int add(int a, int b) {  
    return a + b;  
}
```

void ?

void

1.

```
void printSomeSentence()
{
    printf("=====\\n");
    printf("Company *****\\n");
    printf("Fax ***** \\n");
    printf("Email ***** \\n");
    printf("=====\\n");
}
```

2.

```
void printSomeSentence(void)
{
    printf("=====\\n");
    printf("Company *****\\n");
    printf("Fax ***** \\n");
    printf("Email ***** \\n");
    printf("=====\\n");
}
```

main

```
#include<stdio.h>
int main(int argc, char* argv[]) {
    // argc:
    // argv:

    return 0;
}
```

C/C++

```
int a[6];

char b[6];

double c[6];

#include <stdio.h>
int main() {
    char chars[5] = {'a', 'b', 'c', 'd', 'e'};
    //           0   1   2   3   4

    char chars_first = chars[0];
    char chars_last = chars[4];

    for (int i = 0; i < 5; i++) {
        printf("%c\n", chars[i]);
```





```
char chars[10] = {'a', 'b', 'c', 'd', 'e', '\0'};  
printf("%s", chars); // abcde
```

`\0`

```
char chars[10] = {'a', 'b', 'c', 'd', 'e', '\0', 'a'};  
printf("%s", chars); // abcde
```

```
char chars[] = {"abcde"};  
char chars[] = "abcde";
```



C string.h -----

1.

```
#include <string.h>
char str[] = "abcde";
int len = strlen(str);
```

2.

```
char str1[] = "abcde";
char str2[10];
strcpy(str2 , str1);
```

3.

```
char str1[] = "aaa";
char str2[] = "bbb";

int res = strcmp(str1, str2);

if (res == 0)
    printf("str1      str2\n");
else
    printf("str1      str2      \n");
```

```
#include <stdio.h>
int main(int argc, char *argv[]) {
    int arr[10][10] = {};
    for (int i = 0; i < 10; i++) {
        for (int j = 0; j < 10; j++) {
            printf("%d ", arr[i][j]);
        }
        printf("\n");
    }
    return 0;
}
```

main

```
#include<stdio.h>
int main(int argc, char* argv[]) {
    return 0;
}
```

`#define`

```
#define LIGHT 1
#define DARK 1

enum Week {
    Monday = 0,
    Tuesday = 1,
    Wednesday = 2,
};

int main(int argc, char const *argv[]) {
    printf("%d\n", LIGHT);
    return 0;
}
```

1. (Preprocessing)
 - #include
2. (Compilation)
 -
3. (Assemble)
 -
4. (Linking)
 - (.so / .dll)

templete