数据类型和变量

> 布尔类型

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

int main() {
    bool flag = false;          //_Bool flag = false;
    //if (flag){}
    if (flag == true) {
        printf("Hello World!");
    }
    return 0;
}
输出结果为空

int main() {
    bool flag = false;          //_Bool flag = false;
    //if (flag){}
    if (flag == true) {
        printf("Hello World!");
    }
    return 0;
}
输出结果为Hello World!
```

数据类型的长度

sizeof操作符

```c
#include <stdio.h>
#include <stdbool.h>
int main() {
    printf("%zd\n",sizeof(int));
    printf("%zd\n", sizeof(short));
    printf("%zd\n", sizeof(float));
    printf("%zd\n", sizeof(double));
    printf("%zd\n", sizeof(long double));
    printf("%zd\n", sizeof(long));
    printf("%zd\n", sizeof(long long));
    printf("%zd\n", sizeof(char));
    printf("%zd\n", sizeof(bool));
    return 0;
}
```

```
单位为字节：
4          //int
2          //short
4          //float
8          //double
8          //long double
4          //long   C语言标准：sizeof(long) >= sizeof(int)
8          //long long
1          //char
1          //bool
```

> sizeof 表达式不计算

```c
#include <stdio.h>
int main() {
    long l = 1000;
    int b = 10;
    printf("%zd", sizeof(b=l+1));        //b是int类型，只能容纳4个字节，多出来的直接挤掉
    return 0;
}
输出结果为：4
```

signed 和 unsigned

signed 和 unsigned 用来修饰 **字符类型** 和 **整形**

signed 带正负号，包含负值

unsigned 只有0和正整数