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下圖螢光筆繪製處為相異點，我們將探討 len++與++len 在此處形成之差異

```c
int main()
{

  char src[] = "cs23!";
  char dst[]="Hello hello";
  char *curdst;
  int len=0;

  printf("src address %p and first char %c \n", (void *)&src, src[0]);
  printf("dst address %p and first char %c \n", (void *)&dst, dst[0]);

  // compute where NULL character is '\0' ASCII 0

  // while(src[len++]); THE BUG. What was the problem?

  while(src[++len]); // THE FIX: How does this fix it? **001**

  // print out the char arrays and various addresses.

  printf("src array %s and last element %d\n", src, atoi(&src[len]));
  printf("dst array %s and last element %c\n", dst, dst[len]);

  // do the copy

  curdst= my_strcpy(dst, src);

  // check to see if the NULL char is copied too.

  printf("dst array %s and last element %d\n", dst, atoi(&dst[len]));

  return 0;

}

char *my_strcpy(char *s1, const char *s2) {

  register char *d = s1;

  // print the pointer variables address and their contents, and first char

  printf("s2 address %p, its contents is a pointer %p to first char %c \n", (void *)&s2, (void *)s2, *s2);
  printf("s1 address %p, its contents is a pointer %p to first char %c \n", (void *)&s1, (void *)s1, *s1);

  while ((*d++ = *s2++));
  return(s1);

}
```

為了更明顯看出差異，我們將程式碼改寫為:

```c
  // compute where NULL character is '\0' ASCII 0
  int flag = 0;//0為bug,1為true

if(flag==0){
    while(src[len++]) {
        printf("%c\n",dst[len]);

    // THE BUG. What was the problem?5
        printf("bug   len++ = %d\n",len);
    }
}
if(flag==1) {
    while(src[++len]) {
        printf("%c\n",dst[len]);
     // THE FIX: How does this fix it? **001**
        printf("fixed ++len = %d\n",len);
    }
}
  printf("final %d\n",len);
  printf("src array %s and last element %d\n", src, atoi(&src[len]));
  printf("dst array %s and last element %c\n", dst, dst[len]);
```

以下為 bug 與 fixed 所形成之差異

```
C:\Users\user\Desktop\大一下\cs\fixed.exe
e
bug   len++ = 1
l
bug   len++ = 2
l
bug   len++ = 3
o
bug   len++ = 4

bug   len++ = 5
final 6
src array cs23! and last element 0
dst array Hello hello and last element h

--------------------------------
Process exited after 0.0572 seconds with retu
請按任意鍵繼續 . . .
```

```
選取 C:\Users\user\Desktop\大一下\cs\fixed.exe
e
fixed ++len = 1
l
fixed ++len = 2
l
fixed ++len = 3
o
fixed ++len = 4
final 5
src array cs23! and last element 0
dst array Hello hello and last element

--------------------------------
Process exited after 0.047 seconds with return value 0
請按任意鍵繼續 . . .
```

Bug 版本算出來的 len 為 5；fixed 版本算出來的 len 為 6

Fixed : ++len 加到 5 了才發現第五個是 0，跳出迴圈，所以最後的 len 落在 5

Bug : len++數了五個以後，因為第六個是 0，跳出迴圈，再做++(先做再+)，所以最後的 len 落在 6

以下為 j++與++i 的差異

```
1  #include <stdio.h>
2  int main() {
3      int i = 0;
4      int j = 0;
5      int A = 0,B = 0;
6      A = j++;
7      B = ++i;
8  printf("i = %d\nj = %d\nA = %d\nB = %d\n",i,j,A,B);
9  }
10
```

```
C:\Users\user\Desktop\大一下\cs\++i_i++.exe
i = 1
j = 1
A = 0
B = 1

--------------------------------
Process exited after 0.06488 seconds with return value 24
請按任意鍵繼續 . . .
```

第 6 行為把 j 丟給 A，再對 j 做++；

第 7 行為先對 i 做++，再丟給 B。