strcpy.

```
*/

#include<stdio.h>
#include<stdlib.h>

char *my_strcpy(char * , const char * );

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);

}
```

fixed_strcpy.c

```
*/

#include<stdio.h>
#include<stdlib.h>

char *my_strcpy(char * , const char * );

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++]);

  // 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);

}
```

strcpy.c 中的

while(str[len++]);

必須更正成fixed-strcpy.c中的

while(src[++len]);

len++為先取len的值再進行運算；而++len為先運算完再取len的值

strcpy.c

因為為len++，儘管在len[5]存在'\0'，結果還會再加一

fixed-strcpy.c

因為為++len，因此會先做運算再進行檢查