

CS 1723, Three ways to have a function give a value to a string, Mon Sep 21 1998

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runner% cat params.c
/* params.c: test 3 ways for a function to give a value */
/* to a string */
/* Written by NR Wagner, 3 Mar 1997 */
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

void f1(char *word);
char *f2(void);
void f3(char **wordptr);

void main(void)
{
    char word1[20];
    char *word2;
    char *word3;
    f1(word1);
    printf("1st method: \"%s\"\n", word1);
    word2 = f2();
    printf("2nd method: \"%s\"\n", word2);
    f3(&word3);
    printf("3rd method: \"%s\"\n", word3);
}

/* f1: caller supplies storage */
/* function inserts characters. */
void f1(char *word)
{
    strcpy(word, "Alferd Packer");
}

/* f2: caller supplies pointer to char */
/* function allocates storage, inserts chars, */
/* and returns pointer to the storage. */
char *f2(void)
{
    char * word;
    word = (char *) malloc(20);
    strcpy(word, "Alf Landon");
    return word;
}

/* f3: caller supplies pointer to string */
/* function allocates storage, inserts chars, */
/* and returns pointer to the storage via the */
/* parameter. */
void f3(char **wordptr)
{
    char *word;
    word = (char *) malloc(20);
    strcpy(word, "Alfred E. Newman");
    *wordptr = word;
}
```

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runner% lint -m -u params.c
```

function returns value which is always ignored

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    strcpy                                printf
```

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runner% cc -o parmas params.c
```

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runner% parmas
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1st method: Alferd Packer
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```
2nd method: Alf Landon
```

```
3rd method: Alfred E. Newman
```

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runner%
```