

```
1 #include <stdio.h>
2
3 int main(void)
4 {
5     //variable declarations
6     int num;
7     int *ptr = NULL;
8     int *copy_ptr = NULL;
9
10    //code
11    num = 5;
12    ptr = &num;
13
14    printf("\n\n");
15    printf("***** BEFORE copy_ptr = ptr *****\n\n");
16    printf("    num          = %d\n", num);
17    printf("    &num          = %p\n", &num);
18    printf("    *(&num)        = %d\n", *(&num));
19    printf("    ptr           = %p\n", ptr);
20    printf("    *ptr          = %d\n", *ptr);
21
22    // 'ptr' is an integer pointer variable...that it it can hold the address of any integer variable only
23    // 'copy_ptr' is another integer pointer variable
24    // If ptr = &num ... 'ptr' will contain address of integer variable 'num'
25    // If 'ptr' is assigned to 'copy_ptr', 'copy_ptr' will also contain address of integer variable 'num'
26    // Hence, now, both 'ptr' and 'copy_ptr' will point to 'num' ...
27
28    copy_ptr = ptr; // copy_ptr = ptr = &num
29
30    printf("\n\n");
31    printf("***** AFTER copy_ptr = ptr *****\n\n");
32    printf("    num          = %d\n", num);
33    printf("    &num          = %p\n", &num);
34    printf("    *(&num)        = %d\n", *(&num));
35    printf("    ptr           = %p\n", ptr);
36    printf("    *ptr          = %d\n", *ptr);
37    printf("    copy_ptr      = %p\n", copy_ptr);
38    printf("    *copy_ptr     = %d\n", *copy_ptr);
39    return(0);
40 }
41
```