

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      //variable declarations
6      int num;
7      int *ptr = NULL;
8      int ans;
9
10     //code
11     num = 5;
12     ptr = &num;
13
14     printf("\n\n");
15     printf(" num      = %d\n", num);
16     printf(" &num     = %p\n", &num);
17     printf(" *(&num) = %d\n", *(&num));
18     printf(" ptr      = %p\n", ptr);
19     printf(" *ptr     = %d\n", *ptr);
20
21     printf("\n\n");
22
23
24     // Add 10 to 'ptr' which is the address of 'num' ...
25     // Hence, 10 will be added to the address of 'num' and the resultant address  ➤
26     // will be displayed
27     printf("Answer Of (ptr + 10) = %p\n", (ptr + 10));
28
29     // Add 10 to 'ptr' which is the address of 'num' and give value at the new  ➤
30     // address...
31     // Hence, 10 will be added to the address of 'num' and the value at resultant  ➤
32     // address will be displayed ...
33     printf("Answer Of *(ptr + 10) = %d\n", *(ptr + 10));
34
35     // Add 10 to '*ptr' which is the value at address of 'num' (i.e : 'num' i.e:  ➤
36     // 5) and give new value. without any change in any address ...
37     // Hence, 10 will be added to the '*ptr' (num = 5) and the resultant value  ➤
38     // will be given (*ptr + 10) = (num + 10) = (5 + 10) = 15 ...
39     printf("Answer Of (*ptr + 10) = %d\n\n", (*ptr + 10));
40
41
42     // *** ASSOCIATIVITY OF * (VALUE AT ADDRESS) AND ++ AND -- OPERATORS IS FROM  ➤
43     // RIGHT TO LEFT ***
44
45     // (RIGHT TO LEFT) Consider value *ptr ... Pre-increment *ptr ... That is,  ➤
46     // value at address 'ptr' i.e: *ptr is pre-incremented (++*ptr)
47     ++*ptr; // *ptr is pre-incremented ... *ptr is 5 ... after execution of this  ➤
48     // statement ... *ptr = 6
49     printf("Answer Of ++*ptr : %d\n", *ptr); //Brackets not necessary fo pre-  ➤
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    increment / pre-decrement
45
46
47 // (RIGHT TO LEFT) Post-increment address ptr ... That is, address 'ptr' i.e:  ↗
    ptr is post-incremented (ptr++) and then the value at the new address is  ↗
    displayed (*ptr++)...
48 *ptr++; // Incorrect method of post-incrementing a value using pointer ...
49 printf("Answer Of *ptr++ : %d\n", *ptr); //Brackets ARE necessary fo post-  ↗
    increment / post-decrement
50
51
52 // (RIGHT TO LEFT) Post-increment value *ptr ... That is, value at address  ↗
    'ptr' i.e: *ptr is post-incremented (*ptr)++
53 ptr = &num;
54 (*ptr)++; // Correct method of post-incrementing a value using pointer ...  ↗
    *ptr is 6 ... at this statement *ptr remains 6 but at next statement *ptr =  ↗
    7 (post-increment)
55 printf("Answer Of (*ptr)++ : %d\n\n", *ptr); //Brackets are necessary fo post-  ↗
    increment / post-decrement
56
57 return(0);
58 }
59
60
```