

```
1 #include <stdio.h>
2
3 int main(void)
4 {
5     //variable declarations
6     int num = 5;
7     const int* ptr = NULL; // Read this line from right to left => "ptr is a
8                             pointer (*) to integer (int) constant (const)."
9
10    //code
11    ptr = &num;
12    printf("\n");
13    printf("Current Value Of 'num' = %d\n", num);
14    printf("Current 'ptr' (Address of 'num') = %p\n", ptr);
15
16    // The following line does NOT give error ... as we are modifying the value of
17    the variable individually
18    num++;
19    printf("\n\n");
20    printf("After num++, value of 'num' = %d\n", num);
21
22    // The following line gives error and is hence commented out.
23    // We cannot alter the value stored in "A pointer to constant integer"
24    // With respect to the pointer, the value it points to should be constant.
25    // Uncomment it and see the error.
26
27    // (*ptr)++;
28
29    // The following line does NOT give error
30    // We do not get error because we are changing the pointer (address).
31    // The pointer is not constant. The value to which the pointer points is
32    constant.
33    ptr++;
34
35    printf("\n\n");
36    printf("After ptr++, value of 'ptr' = %p\n", ptr);
37    printf("Value at this new 'ptr' = %d\n", *ptr);
38    printf("\n");
39    return(0);
40 }
41
42 // CONCLUSION :
43 // As "ptr" is a "variable pointer to constant integer" - we can change the value
44 of pointer "ptr".
45 // We can change the value of the variable (num) individually - whose address is
46 contained in "ptr".
47 // So in short, we cannot change "the value at address of ptr" - we cannot change
48 the value of "num" with respect to "ptr" => (*ptr)++ is NOT allowed.
49 // But, we can change the address 'ptr' itself => So, ptr++ is allowed.
```