

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      //function declarations
6      void SwapNumbers(int *, int *);
7
8      //variable declaration
9      int a;
10     int b;
11
12     //code
13     printf("\n\n");
14     printf("Enter Value For 'A' : ");
15     scanf("%d", &a);
16
17     printf("\n\n");
18     printf("Enter Value For 'B' : ");
19     scanf("%d", &b);
20
21     printf("\n\n");
22     printf("***** BEFORE SWAPPING *****\n\n");
23     printf("Value Of 'A' = %d\n\n", a);
24     printf("Value Of 'B' = %d\n\n", b);
25
26     SwapNumbers(&a, &b); // ***** ARGUMENTS PASSED 'BY REFERENCE / ADDRESS' ...
27     *****
28
29     printf("\n\n");
30     printf("***** AFTER SWAPPING *****\n\n");
31     printf("Value Of 'A' = %d\n\n", a);
32     printf("Value Of 'B' = %d\n\n", b);
33
34     return(0);
35 }
36 // Address Of 'a' is copied into 'x' and Address of 'b' is copied into 'y' ... So,
37 // 'a' and 'x' are pointing to ONE and the SAME address and '&b' and 'y' are
38 // pointing to ONE and the SAME address ...
39 // Swapping takes place between 'value at address of x' (value at &a i.e : 'a')
40 // and 'value at address of y' (value at &b i.e : 'b') ...
41 // Hence, Swapping in this case takes place between '*x' and '*y' AS WELL AS
42 // BETWEEN 'a' and 'b' ...
43
44 void SwapNumbers(int *x, int *y)
45 {
46     //varibale declarations
47     int temp;
48
49     //code
50     printf("\n\n");
51     printf("***** BEFORE SWAPPING *****\n\n");
```

```
48     printf("Value Of 'X' = %d\n\n", *x);
49     printf("Value Of 'Y' = %d\n\n", *y);
50
51     temp = *x;
52     *x = *y;
53     *y = temp;
54
55     printf("\n\n");
56     printf("***** AFTER SWAPPING *****\n\n");
57     printf("Value Of 'X' = %d\n\n", *x);
58     printf("Value Of 'Y' = %d\n\n", *y);
59 }
60
```