

C ProgrammingLecture 1103/04/2020

Bitwise Shift operators :-> The bitwise shift operators are used to move/shift the bit pattern either to the left or right side. Left and right are two shift operators provided by 'C' which are represented as follows:

1)  $\ll$  n left shift

2)  $\gg$  n right shift

Here, \* an operand is an integer expression on which we have to perform the

Shift ~~operation~~ operation.  
\* 'n' is the total number of bit positions that we have to shift in the integer expression.



| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
| 5  | 6  | 7  | 8  | 9  | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 |    |

JULY 2020

9 The left shift operation will shift  
10 the 'n' number of bits to the left side.

11 The leftmost bits in the expression will  
12 be popped out, and n bits with the  
1 value 0 will be filled on the right side.

2 The right shift operation will shift  
3 the 'n' number of bits to the right  
4 side. The rightmost 'n' bits in the  
5 expression will be popped out, and the  
6 value 0 will be filled on the  
7 left side.

example :  $\rightarrow n \ll 2$  (left shift) =  $1111 \ll 2 = 1100$

$n \gg 2$  (right shift) =  $1111 \gg 2 = 0011$



```

9 Program : - #include <stdio.h>
10               #include <conio.h>
11               void main()
12                 {
13                   int num a = 60;
14
15                   printf("\n Number is shifted by 1 bit:
16
17                       %d", a >> 1);
18
19                   printf("\n Number is shifted by 2 bits: %d",
20
21                       a >> 2);
22
23                   printf("\n Number is shifted by 3
24
25                       bits: %d", a >> 3);
26
27                   getch();
28
29                   }

```

02 SUNDAY

output : Number is shifted by 1 bit : 30  
 Number is shifted by 2 bits : 15  
 Number is shifted by 3 bits : 7



firstly we will convert 60 into binary :-

0000 0000 0011 1100 (60)

suppose we shifting 2 bits :-

0000 0000 0011 1100

↓  
shift into right

→  
0000 0000 0000 1111 (15)

Answer

Now create yourself a program for left shift operator, ask if you are having any problem)