



main.c

Output



```
1 #include<stdio.h>
2 int main()
3 {
4     int a,b;
5     printf("enter the a value :");
6     scanf("%d",&a);
7     printf("enter the b value :");
8     scanf("%d",&b);
9     printf("a&b=%d\n",a&b);
10    printf("a|b=%d\n",a|b);
11    printf("~a=%d\n",~a);
12    printf("a^b=%d\n",a^b);
13    return 0;
14 }
```

Run



main.c

Output



```
enter the a value :4
```

```
enter the b value :2
```

```
a&b=0
```

```
a|b=6
```

```
~a=-5
```

```
a^b=6
```

==== Code Execution Successful ===|



main.c

Output



```
1 #include<stdio.h>
2 int main()
3 {
4     int a,b;
5     printf("enter the a value :");
6     scanf("%d",&a);
7     printf("enter the b value :");
8     scanf("%d",&b);
9     printf("a<b=%d\n",a<b);
10    printf("a>b=%d\n",a>b);
11    printf("a<=b=%d\n",a<=b);
12    printf("a>=b=%d\n",a>=b);
13    printf("a!=b=%d\n",a!=b);
14    printf("a==b=%d\n",a==b);
15    return 0;
16 }
```

Run



main.c

Output



enter the a value :4

enter the b value :2

a<b=0

a>b=1

a<=b=0

a>=b=1

a !=b=1

a==b=0

==== Code Execution Successful ===|

MCQs on shift operators, increment, and decrement operators in c language.

- 1) pre inc/dec
- 2) substitution
- 3) evaluation
- 4) Assignment
- 5) Post(in/de)

1) what is the result of $8 \gg 2$?

- a) 2 b) 4 c) 8 d) 16

Formula $\rightarrow \frac{\text{num}}{2^{\text{po}}} = \frac{8}{2^2} = \frac{8}{4} = 2$

2) what is the result of $5 \ll 1$?

- a) 2 b) 5 c) 10 d) 15

formula $\rightarrow \text{num} * 2^{\text{po}} \Rightarrow 5 * 2^1 = 10$

3) If $a = 3$, then $a \ll 2$ equals:

- a) 6 b) 8 c) 12 d) 9

$3 \ll 2 \Rightarrow \frac{\text{num}}{2^{\text{po}}} = \frac{3}{2^2} = \frac{3}{4}$ num $* 2^{\text{po}} \Rightarrow 3 * 4 = 12$

4) what is the output of $10 \gg 1$?

- a) 5 b) 10 c) 20 d) 8

$10 \gg 1 \Rightarrow \frac{\text{num}}{2^{\text{po}}} = \frac{10}{2^1} = 5$

5) what does the operator \ll do?

- a) divides by 2

- b) multiplies by 2

- c) Adds 1

- d) Subtracts 1

6) what will be the result of:

```
int a = 4;
a<<=1;
printf ("%d", a);
```

- a) 2 b) 4 c) 8 d) 6

Ans:-

$$a \ll= 1 \Rightarrow 4 * 2^1 = 8$$

7) what is the output of:

```
int a=8;
a>>=2;
printf ("%d", a);
```

- a) 2 b) 4 c) 8 d) 16

$$a \gg= 2 \Rightarrow \frac{8}{2^2} = \frac{8}{4} = 2$$

8) what does $++a$ mean?

- a) increments after use
 - b) increments before use
 - c) decrements before use
 - d) None of the above
- $++a$ means increments before use

9) what does $a++$ mean?

- a) increments before use
- b) increments after use
- c) decrements before use
- d) None of these

$a++$ means increments after use

10, what will be printed?

```
{ int a=5;  
  printf ("%d", a++) ; }
```

- a) 5 b) 6 c) 4 d, error

a++
post increment } $\rightarrow a=5$

11 what will be printed?

```
{ int a=5;  
  printf ("%d", ++a); }
```

- a) 4 b) 5 c) 6 d, error

++a
pre-inc } $\rightarrow a=6$

12 what is the output?

```
{ int a=10;  
  printf ("%d", a--); }
```

- a) 9 b) 10 c) 11 d, Error

a--
post dec } output : 10

13 what is the output?

```
{ int a=10;  
  printf ("%d", --a); }
```

- a) 10 b) 9 c) 11 d, error

--a
pre dec } output : 9

14) what will be the value of a after this code?

int a=5;

a=a++ + ++a;

- a) 10 ✓b) 11 c) 12 ✓d) undefined

$\begin{matrix} ++a \\ \text{pre inc} \end{matrix} \rightarrow 6$ $\begin{matrix} a++ \\ \text{post inc} \end{matrix} \rightarrow 5$

$$a++ + ++a \Rightarrow 5+6 = 11$$

15) what will be the output of the following c code?

```
#include <stdio.h>
int main()
{
    int i=0;
    int x=i++, y=++i;
    printf ("%d %d\n", x, y);
    return 0;
}
```

- ✓a) 0, 2 b) 0, 1 c) 1, 2

d) undefined

$\begin{matrix} i++ \\ \text{post inc} \end{matrix} \rightarrow i=0$ $\begin{matrix} ++i \\ \text{pre inc} \end{matrix} \rightarrow 2$

2
1 0
5 0
4 2 1
1 0
2 1 0
4 2 1 0
5 4 2 1 0

16) what will be the output of the following c code?

```
#include <stdio.h>
int main()
{
    int i=10;
    int *p=&i;
    printf ("%d\n", *p++);
}
```

y

- ✓a) 10 b) 11 c) Garbage Value d) Address of i

$$p++ \Rightarrow 10$$