

code\studio.h>

nt main()

```
int a=10,b=100;
float c=10.5,d=100.5;
printf("++a=%d\n",++a);
printf("--d=%d\n",--b);
printf("++c%f\n",++c);
printf("--d=%f\n",--d);
return 0;
```

```
++a=11  
--d=99  
++c11.500000  
--d=99.500000
```

```
Process returned 0 (0x0)   execution time : 0.016 s  
Press any key to continue.
```

```

1  #include<stdio.h>
2  int main()
3  {
4      int a=5,b=5,c=10;
5      printf("%d==%d is %d\n",a,b,a==b);
6      printf("%d==%d is %d\n",a,c,a==c);
7      printf("%d>%d is %d\n",a,b,a>b);
8      printf("%d>%d is %d\n",a,c,a>c);
9      printf("%d<%d is %d\n",a,b,a<b);
10     printf("%d<%d is %d\n",a,c,a<c);
11     printf("%d!=%d is %d\n",a,b,a!=b);
12     printf("%d!=%d is %d\n",a,c,a!=c);
13     printf("%d>=%d is %d\n",a,b,a>=b);
14     printf("%d>=%d is %d\n",a,c,a>=c);
15     printf("%d<=%d is %d\n",a,b,a<=b);
16     printf("%d<=%d is %d\n",a,c,a<=c);
17     return 0;
18 }
19

```

```
5==5 is 1
5==10 is 0
5>5 is 0
5>10 is 0
5<5 is 0
5<10 is 1
!=5 is 5
5!=10 is 1
5>=5 is 1
5>=10 is 0
5<=5 is 1
5<=10 is 1
```

Process returned 0 (0x0) execution time : 0.020 s
Press any key to continue.

```
#include<stdio.h>
int main()
{
    int a=5,b=5,c=10,result;
    result=(a==b) && (c>b);
    printf("(a==b) && (c>b) is %d\n",result);
    result=(a==b) && (c<b);
    printf("(a==b) && (c<b) is %d\n",result);
    result=(a==b) || (c<b);
    printf("(a!=b) || (c<b) is %d\n",result);
    result=(a!=b) || (c<b);
    printf("(a!=b) || (c<b) is %d\n",result);
    result=! (a!=b);
    printf("! (a!=b) is %d\n",result);
    result=! (a==b);
    printf("! (a==b) is %d\n",result);
    return 0;
}
```

C:\Users\nagen\OneDrive\Documents\program3.exe

```
(a==b)&&(c>b) is 1
```

```
(a==b)&&(c<b) is 0
```

```
(a!=b)|| (c<b) is 1
```

```
(a!=b)|| (c<b) is 0
```

```
!(a!=b) is 1
```

```
!(a==b) is 0
```

Process returned 0 (0x0) execution time : 0.017 s

Press any key to continue.

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int a;
```

```
    float b;
```

```
    char c;
```

```
    double d;
```

```
    printf("size of int:%d bytes\n", sizeof(a));
```

```
    printf("size of float:%d bytes\n", sizeof(b));
```

```
    printf("size of char:%d bytes\n", sizeof(c));
```

```
    printf("size of double:%d bytes\n", sizeof(d));
```

```
    return 0;
```

```
}
```


size of int:4 bytes
size of float:4 bytes
size of char:1 bytes
size of double:8 bytes

Process returned 0 (0x0) execution time : 0.023 s
Press any key to continue.


```
1  #include<stdio.h>
2  int main()
3  {
4      int a=5,b=8,c=10,largest;
5      largest=(a>b)?(a>c?a:c):(b>c?b:c);
6      printf("largest of three numbers=%d",largest);
7      return 0;
8  }
9
```

largest of three numbers=10

Process returned 0 (0x0) execution time : 0.016 s

Press any key to continue.

```
1  #include<stdio.h>
2  int main()
3  {
4      int a,num=22;
5      a=num<<1;
6      printf("left shift:%d<<1=%d\n",num,a);
7      a=num<<2;
8      printf("left shift:%d<<2=%d\n",num,a);
9      a=num>>1;
10     printf("right shift:%d>>1=%d\n",num,a);
11     a=num>>2;
12     printf("right shift:%d>>2=%d\n",num,a);
13     return 0;
14 }
15
```

left shift:22<<1=44

left shift:22<<2=88

right shift:22>>1=11

right shift:22>>2=5

Process returned 0 (0x0) execution time : 0.018 s

Press any key to continue.

```
1  #include<stdio.h>
2  int main()
3  {
4      int a,num=22;
5      a=num<<1;
6      printf("%d<<1=%d\n",num,a);
7      a=num<<2;
8      printf("%d<<2=%d",num,a);
9      return 0;
10 }
11
```

 C:\Users\nagen\OneDrive\Documents\program7.exe

22<<1=44

22<<2=88

Process returned 0 (0x0) execution time : 0.017 s

Press any key to continue.

⑤ num = 22

i) left shift

$$22 = 10110$$

num $\ll 1$

$$\begin{array}{ccccccccc} & 1 & 0 & 1 & 1 & 0 & & & \\ & \swarrow & \swarrow & \swarrow & \swarrow & \swarrow & & & \\ 1 & 0 & 1 & 1 & 0 & 0 & & & \\ 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 & & & \end{array} = 2^5 + 2^3 + 2^2 = 32 + 8 + 4 = 44$$

$$\text{num} \ll 1 \Rightarrow 22 \ll 1 = 44$$

ii) num $\ll 2$

22 $\ll 2$

$$\begin{array}{ccccccccccc} & 1 & 0 & 1 & 1 & 0 & & & & & \\ & \swarrow & \swarrow & \swarrow & \swarrow & \swarrow & & & & & \\ 1 & 0 & 1 & 1 & 0 & 0 & 0 & & & & \\ 2^6 & 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 & & & & \end{array} = 2^6 + 2^4 + 2^3 = 88$$

$$\text{num} \ll 2 \Rightarrow 22 \ll 2 = 88$$