# inc/dec mcq

① #include <stdio.h>
int main(){
int x=5;
int y = x++/2;
Printf("%d", y);
return 0;
}

x++ dec
x = 5
y = 4/2
y = 2

a) 3
b) compile-time error
c) none of these
d) 2

② #include <stdio.h>
int main(){
int a = 4, b, c;
b = --a;
c = a--;
printf("%d %d %d", a, b, c);
return 0;
}

a = 3-1
a = 3
b = 3

a) 3 3 2 b) 2 3 2 c) 3 2 2 d) 2 3 3

③ #include <stdio.h>
int main(){
int a = 9, b = 9;
a = b++;
b = a++;
b = ++b;
Printf("%d %d", a, b);
return 0;
}

a) 9, 9 b) 10, 10 c) 9, 10 d) 10, 9

④
```
#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

⑤
```
#include <stdio.h>
int main()
{
    int i=10;
    int *p = &i;
    Printf("%d\n", *p++);
}
```

a) 10 b) 11 c) Garbage value d) Address of i

* → dereference operator

⑥
```
#include <stdio.h>
Void main()
{
    int x = 97;
    int y = sizeof(x++);
    Printf("x is %d", x);
}
```

a) x is 97 b) x is 98 c) x is 99 d) Run time error

⑦
```
#include <stdio.h>
void main()
{
    int x = 4;
    int *p = &x;
    int *k = p++;
    int r = p - k;
    Printf("%d", r);
}
```

a) 4 b) 8 c) 1 d) Run time error.

8) #include<stdio.h>
int main()
{
Printf("%d", ++9);
Printf("%d", ++9);
Printf("%d", --9);
Printf("%d", --9);
return 0;
}
a) 9 -9 -9 9 b) 10 9 9 9 c) 10 -9 -9 8 d) 10 9 9 8

Right & left shift operator

9) #include<stdio.h>
int main(){
int x=5;
x = x<<1;
Printf("%d",x);
return 0;
}
A) 2 B) 5 C) 10 D) 20

10) what does the left shift operator (<<) do?
A) shifts bits to the right and fills 0 on voids left as a result
B) Shifts bits to the left and fills 0 on voids right as a result
C) shifts bits to the right and fills 1 on voids left as a result
D) Shifts bits to the left and fills 1 on voids right as a result

11) which of the following is equivalent to multiply
A) x>>1 B) x<<1 C) x/2 D) x/.2

12) #include stdio.h>
void main() {
int x = -10;
x = x >> 1;
Printf("%d",x);
return
}
A) -5 B) 5 C) -10 D) implementation-defined

13) what is the result of the expression 10<<2?
A) 5 B) 10 C) 20 D) 40.

14) If an integer x is 0b1011 (decimal 11)
what happen to the vacant positions on the right
side when a left shift operation is performed (<<)?
a) They are filled with ones (1).
b) They are filled with sign bit.
c) They remain unchanged.
d) They are filled with zeros (0)

15)
```
#include<stdio.h>
void main(){
int num=10;
int result = num<<10;
Printf("%d", result);
}
```
10×2^10
10×1024
10240

a) 10240 b) 10340 c) 12240 d) 10430

Bitwise operators

```
#include<stdio.h>
void main()
{ int x,y;
Printf("\n... Enter two number:");
Scanf("%d %d", &x, &y);
Printf("\n\t %d<%d : %d", x, y, x<y);
Printf("\n\t %d<=%d : %d", x, y, x<=y);
Printf("\n\t %d>%d : %d", x, y, x>y);
Printf("\n\t %d>=%d : %d", x, y, x>=y);
Printf("\n\t %d==%d : %d", x, y, x==y);
Printf("\n\t %d!=%d : %d", x, y, x!=y);
}
```

output

Enter two number: 10 20
10<20 : 1
10<=20 : 1
10>20 : 0
10>=20 : 0
10==20 : 0
10!=20 : 1

## << , >> Code

```
#include<stdio.h>
void main()
{
  int x;
  Printf("\n.... Enter A number:");
  Scanf("%d", &x);
  Printf("\n\t LEFTSHIFT-1: %d", x<<1);
  printf("\n\t LEFTSHIFT-2 : %d", x<<2);
  Print-f("\n\t LEFT SHIFT-3 : %d", x<<3);
  Print-f("\n\t LEFT SHIFT-4 : %d", x<<4);
  Print-f("\n\t RIGHT SHIFT-1 : %d", x>>1);
  Print-f("\n\t RIGHT SHIFT-2 : %d", x>>2);
  Print-f("\n\t RIGHT SHIFT-3 : %d", x>>3);
  Print-f("\n\t RIGHT SHIFT-4 : %d", x>>4);
}
```

Output

enter the number : 8

LEFT SHIFT-1 : 16

" " 2 : 32

" " 3 : 64

" " 4 : 128

RIGHT SHIFT-1 : 4

" " 2 : 2

" " 3 : 1

" " 4 : 0

Bitwise operators two int values

```
#include <stdio.h>
void main()
{
    int num1, num2;
    Printf("\n... enter two integer value :");
    scanf("%d %d", &num1, &num2);
```

```
#include <stdio.h>
void main()
{
    int x,y;
    Printf("\n.. Enter x value :");
    Scanf("%d", &x);
    Printf("\n.. Enter y value:");
    Scanf("%d", &y);
    Printf("\n%d & %d : %d", x, y, x&y);
    Printf("\n%d | %d : %d", x, y, x|y);
    Printf("\n%d ~ %d : %d", x, y, x~y);
    Printf("\n%d ^ %d : %d", x, y, x^y);
}
```

Output

enter x value : 10
enter y value : 2
10 & 2 : 2
10 | 2 : 10
10 ~ 2 : 0
10 ^ 2 : 8