

## EXPRESSIONS

1. In which order do the Relational, Arithmetic, Logical and Assignment operators get evaluated in C?

2. Which of the following are unary operators in C?

A. !

B. sizeof

C. ~

D. &&

E. =

3. What will be the output of the following program?

```
#include<stdio.h>
int main( )
{
    static int a[20];
    int i=0 ;
    a[ i ] = i++;
    printf( “%d %d %d\n”, a[0], a[1], i ) ;
    return 0 ;
}
```

4. What will be the output of the following program?

```
#include<stdio.h>
int main( )
{
    int i=3 ;
    i= i++;
    printf(“%d\n”, i ) ;
    return 0 ;
}
```

5. The expression on the right hand side of && and || operators does not get evaluated if the left hand side determines the outcome.[True/False]

6. Which of the following is the correct output for the program given below?

```
#include<stdio.h>
int main( )
{
    int i=2;
    printf(“%d %d\n”, ++i, ++i );
    return 0 ;
}
```

A. 3 4

B. 4 3

C. 4 4

D. output may vary from compiler to compiler.

7. Are the following two statements same?[Yes/No]

`a<= 20 ? b = 30: c = 30 ;`

`a<= 20 ? b: c = 30 ;`

8. Are the following two statements same?[Yes/No]

`a<=20 ? ( b=10 ) : ( b=30 );`

`b=a <= 20 ? 10 : 30 ;`

9. Which of the following is the correct output for the program given below?

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

```
int main( )
```

```
{
```

```
    int x=4, y, z;
```

```
    y = --x ;
```

```
    z = x-- ;
```

```
    printf( “%d %d %d\n”, x, y, z ) ;
```

```
    return 0 ;
```

```
}
```

A. 4 3 3

B. 4 3 2

C. 3 3 2

D. 2 3 3

E. 2 2 3

10. Can you suggest any other way of writing the following expression such that 30 is used only once?

`a<=20 ? b= 30 : c = 30 ;`

11. How come that the C standard says that the expression

`j= i++ * i++ ;`

is undefined, whereas, the expression

`j= i++ && i++;`

is perfectly legal?

12. If `a[ i ] = i++` is undefined, then by the same reason `i = i+1`

should also be undefined. But it is not so. Why?

13. Will the expression `*p++ = c` be disallowed by the compiler?

14. Which of the following is the correct order of calling functions in the code snippet given below?

`a= f1 ( 23, 14 ) * f2 ( 12/4 ) + f3( );`

A. f1, f2, f3

B. f3, f2, f1

C. The order may vary compiler to compiler

D. None of the above

15. Which of the following is correct usage of conditional operators used in C?

- A. `a>b ? ( c=30 ) : ( c=40 );`
- B. `a>b ? c = 30 ;`
- C. `max = a>b ? a>c ? a : c : b>c ? b : c ;`
- D. `return(a>b?a:b)`
- E. `a>b ? return ( a ) : return ( b ) ;`

16. What will be the output of the following program?

```
#include<stdio.h>
int main( )
{
    char ch ;
    ch = 'A' ;
    printf( "The letter is" );
    printf( "%c", ch>= 'A' && ch<= 'Z' ? ch + 'a' - 'A' : ch );
    printf( "\n Now the letters is" );
    printf( "%c\n", ch>= 'A' && ch<= 'Z' ? ch : ch + 'a' - 'A' );
    return 0 ;
}
```

17. What will be the output of the following program?

```
#include<stdio.h>
int main( )
{
    int i= -3, j = 2, k = 0, m ;
    m= ++i && ++j || ++k ;
    printf( "%d %d %d %d\n", i, j, k, m );
    return 0 ;
}
```

18. What will be the output of the following program?

```
#include<stdio.h>
int main( )
{
    int i= -3, j =2, k = 0, m ;
    m = ++i || ++j && ++k ;
    printf( "%d %d %d %d\n" , i, j, k, m );
    return 0 ;
}
```

19. What will be the output of the following program?

```
include<stdio.h>
int main( )
{
    int i= -3, j =2, k = 0, m ;
    m = ++i ++j && ++k ;
    printf( "%d %d %d %d\n" , i, j, k, m );
}
```

```

        return 0 ;
    }

```

20. What will be the output of the following program?

```

#include<stdio.h>
int main( )
{
    int i=2 ;
    int j = i+ ( 1, 2, 3, 4, 5 );
    printf( "%d\n", j );
    return 0 ;
}

```

21. State True or False:

- A. Associativity of operator is either Left to Right r Right to Left.
- B. Every operator has an associativity.
- C. Associativity has no rule to play unless the precedence of operators is same.
- D. Two different operators would always have different associativity.
- E. In the expression  $a = b = 5$  the order of assignment is not decided by associativity of operators.

22. Which of the following correctly shows the hierarchy of arithmetic operations in C?

- A.  $/ + * \% -$       B.  $* - \% / +$       C.  $+ - / * \%$       D.  $* / \% + -$

23. Which of the following is the correct output for the program given below?

```

#include<Stdio.h>
int main ( )
{
    int x = 55 ;
    printf( "%d %d %d\n", x<= 55, x= 40, x>= 10 );
    return 0 ;
}

```

- A. 1 40 1
- B. 1 55 1
- C. 1 55 0
- D. 1 1 1
- E. 0 0 0

24. Which of the following statements are correct about the code snippet given below?

```

int num = 10 ;
k = num > 5 ? k = 30 ; ;

```

- A. First ; is treated as a null statement

- B. Second ; is treated as a statement terminator
- C. 30 would be assigned to k
- D. compiler would report an error

25. Which of the following is the correct output for the program given below?

```
#include<stdio.h>
int main( )
{
    int a=100, b=200, c;
    c=(a==100 || b>200);
    printf("c=%d\n", c);
    return 0;
}
```

- A. c = 100
- B. c = 200
- C. c = 1
- D. c = 0
- E. c = 300

26. Which of the following is the correct output for the program given below?

```
#include<stdio.h>
int main( )
{
    int x = 12, y = 7, z ;
    z = x != 4 || y == 2;
    printf("z=%d\n", z);
    return 0;
}
```

- A. z = 0
- B. z = 1
- C. z = 4
- D. z = 2

27. Which of the following is the correct output for the program given below?

```
#include<stdio.h>
int main( )
{
    int i = 4, j = -1, k = 0, w, x, y, z;
    w = i || j || k ;
    x = i && j && k;
    y = i || j && k;
    z = i && j || k;
    printf("%d %d %d %d\n", w, x, y, z);
    return 0 ;
}
```

- A. 1 1 1 1
- B. 1 1 0 1
- C. 1 0 0 1
- D. 0 1 1 1
- E. 1 0 1 1

28. which of the following statements are correct about the program given below?

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

```
int main( )
```

```
{
    float a = 1.5, b = 1.55;
    if ( a=b )
        printf("a and b are equal\n" );
    else
        printf("a and b are not equal\n" );
    return 0 ;
}
```

- A. The output of the program would be "a and b are equal" .
- B. The statement if ( a=b ) would report a compilation error.
- C. Floats cannot be compare using if.
- D. switch should be used to compare floats.
- E. conditional operators should be used to compare floats.

29. Which of the following is correct order of evaluation for the expression given below?

```
z= x + y * z/4 % 2 - 1 ;
```

- A. \* / % + - =
- B. = \* / % + -
- C. \* / % - + =
- D. \* / % - + =
- E. \* % / \* + =

30. Which of the following is the correct output for the program given below?

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

```
int main( )
```

```
{
    int x, y, z ;
    x = y = z = 1;
    z= ++x || ++y && ++z;
    printf("x= %d y=%d z=%d\n", x,y,z );
    return 0;
}
```

- A. x = 2 y = 1 z = 1
- B. x = 2 y = 2 z = 1
- C. x = 2 y = 2 z = 2
- D. x =1 y = 2 z = 1

31. Which of the following is the correct output for the program given below?

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

```
int main( )
```

```
{  
    int x, y, z ;  
    x = y = z = 1;  
    printf("x = %d y = %d z = %d\n", ++x, y++, ++z);  
    return 0;  
}
```

- A. x = 2 y = 1 z = 2
- B. x = 2 y = 2 z = 2
- C. x = 2 y = 2 z = 1
- D. x = 1 y = 2 z = 1