

Technical Training (**C Basics**)

Operators in 'C'

In C language, operators are categorized in following six categories :

- ✓ **Arithmetic:** Perform basic mathematical operations over one or more than one operands.
- ✓ **Relational and Logical operator:** Relational operators are used to compare two expressions and return the value as 0 and 1. Logical operator combines two or more operands.
- ✓ **Bitwise:** Bitwise operator operates at bit level..
- ✓ **Assignment Operator:** Assigns value.

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Operators in 'C'

Simplest meaning of operator is which works on operand.

✓ Arithmetic:

- ✓ Perform basic mathematical operations on operands.

1-Unary Operator (one operand)

2-Binary Operator (two operand)

Unary Operator (one operand)

Increment- The ++ operator is used to increment the value of integer.

a++ post increment ++a pre increment

Decrement- The -- operator is used to decrement the value of integer.

a-- post decrement --a pre decrement

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Operator	Definition	Example	Unary or Binary
+	adds two operands	a+b	binary
-	Subtracts second operands from first.	a-b	binary
*	multiply two operands	a*b	binary
/	Divides numerator by denominator.	a/b	binary
%	Gives remainder after an integer division.	a%b	binary
++	Increase an integer value by one.	++a , a++	unary
--	Decrease an integer value by one.	--a , a--	unary

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```
#include <stdio.h>
int main(void)
{
    float a=5.0,b=2.0,c;
    c=a % b;
    printf("%f",c);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

- | | |
|--------|----------|
| A. 1.0 | B. 5.0 |
| C. 2.0 | D. Error |

Technical Training (C Basics)

```
#include <stdio.h>
int main(void)
{
    float a=5.0,b=2.0,c;
    c=a % b;
    printf("%f",c);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

A. 1.0

B. 5.0

C. 2.0

D. Error

Technical Training (C Basics)

```
#include <stdio.h>
int main(void)
{
    int a=5,b=2,c;
    c=a++ + ++b + b++ + ++a + a++ + ++b;
    printf("%d",c);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

- | | |
|--------------|--------------|
| A. 22 | B. 32 |
| C. 24 | D. 30 |

Technical Training (C Basics)

```
#include <stdio.h>
int main(void)
{
    int a=5,b=2,c;
    c=a++ + ++b + b++ + ++a + a++ + ++b;
    printf("%d",c);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

A. 22

B. 32

C. 24

D. 30

Technical Training (C Basics)

```
#include <stdio.h>
int main(void)
{
    int a=5,b=3,c;
    c=a-- + --a + b-- + --b + --b + --a;
    printf("%d",c);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

- A. 22
- B. 12
- C. 24
- D. Compiler dependent

Technical Training (C Basics)

```
#include <stdio.h>
int main(void)
{
    int a=5,b=3,c;
    c=a-- + --a + b-- + --b + --b + --a;
    printf("%d",c);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

A. 22

B. 12

C. 24

D. Compiler
dependent

Technical Training (C Basics)

```
#include <stdio.h>
int main(void)
{
    int a=5;
    printf("%d%d%d",a++,++a,++a);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

A. 7 7 6

B. 5 7 8

C. 5 6 7

D. Compiler
dependent

Technical Training (C Basics)

```
#include <stdio.h>
int main(void)
{
    int a=5;
    printf("%d%d%d",a++,++a,++a);
    return 0;
}
```

What would be the output of the above code ? Choose the correct option.

A. 7 7 6

B. 5 7 8

C. 5 6 7

D. Compiler
dependent

Technical Training (C Basics)

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

What would be the output of the above code ? Choose the correct option.

- A. 4
- B. error
- C. 5
- D. Compiler dependent



Technical Training (C Basics)

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

What would be the output of the above code ? Choose the correct option.

A. 4

B. error

C. 5

D. Compiler
dependent

Technical Training (C Basics)

✓ **Bitwise Operator:** In C bitwise operator works at bit level.

Operator	Definition
&	Bitwise And
	Bitwise Or
^	Bitwise XOR
~	Bitwise NOT
>>	Right Shift Operator
<<	Left Shift Operator



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✓ Bitwise Operator:

points to remember-

1. Left and right shift operators should not be used for negative numbers.
2. If the number is shifted more than the size of integer the behavior is undefined.
3. The bitwise operator should not be used in place of logical operators.

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

What would be the output of the above code ? Choose the correct option.

- A. 4
- B. error
- C. 5
- D. Compiler dependent

Technical Training (C Basics)

Operators in 'C'

In C language, operators are categorized in following six categories :

- ✓ **Logical Operator:** Perform basic mathematical operations over one or more than one operands.

Operator	Definition
&&	Logical And
	Logical Or

Technical Training (C Basics)

Operators in 'C'

In C language, operators are categorized in following six categories :

- ✓ **Assignment Operator:**

- ✓ It is a binary Operator

- ✓ Evaluates the operator on Right side and assigns it to on Left side.

- ✓ **Example**



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Operators in 'C'

In C language, operators are categorized in following six categories :

Operators	Type	Associativity
() [] -> .		Left to right
! ~ ++ -- + - * & (type) sizeof	Unary	Right to left
* / %	Binary	Left to right
+ -	Binary	Left to right
<< >>	Binary	Left to right
< <= > >=	Binary	Left to right
== !=	Binary	Left to right
&	Binary	Left to right
^	Binary	Left to right
	Binary	Left to right
&&	Binary	Left to right
	Binary	Left to right
?:	Binary	Right to left
= += -= *= /= %= &= = ^= >>= <==	Binary	Right to left
,	Binary	Left to right

```
1  #include <stdio.h>
2  int a = 2;
3  int a;
4  int main(void) {
5      printf("%d", a);
6      int a;
7      for(int i = 0 ; i < 3 ; i++ )
8      {
9          printf("%d", a);
10         a++;
11     }
12     printf("%d", a);
13     return 0;
14 }
```

What would be the output of the above code ? Choose the correct option.

A. 2 0 1 2 3

B. 2 2 2 2 3

C. 2 1 1 2 2

D. Compiler error

Technical Training (C Basics)

TCS

```
1  #include <stdio.h>
2  int a = 2;
3  int a;
4  int main(void) {
5      printf("%d", a);
6      int a;
7      for(int i = 0 ; i < 3 ; i++ )
8      {
9          printf("%d", a);
10         a++;
11     }
12     printf("%d", a);
13     return 0;
14 }
```

What would be the output of the above code ? Choose the correct option.

A. 2 0 1 2 3

B. 2 2 2 2 3

C. 2 1 1 2 2

D. Compiler error



Technical Training (C Basics)

Capegemini

```
1  #include <stdio.h>
2  int a = 12;
3  int main(void) {
4      for(int j = 0; j <= 1; j++)
5      {
6          int a = 4;
7          a++;
8      }
9      printf("%d" , a);
10     return 0;
11 }
```

What would be the output of the above code ? Choose the correct option.

A. 4

B. 12

C. 5

D. Compiler error

Technical Training (C Basics)

Capegemini

```
1  #include <stdio.h>
2  int a = 12;
3  int main(void) {
4      for(int j = 0; j <= 1; j++)
5      {
6          int a = 4;
7          a++;
8      }
9      printf("%d" , a);
10     return 0;
11 }
```

What would be the output of the above code ? Choose the correct option.

A. 4

C. 5

B. 12

D. Compiler error



Technical Training (C Basics)

TCS

```
1  #include <stdio.h>
2  int main(void) {
3      for(int i = 0; i < 2; i++)
4      {
5          static int a = 4;
6          a++;
7      }
8      printf("%d", a);
9      return 0;
10 }
```

What would be the output of the above code ? Choose the correct option.

- | | |
|-------------|-----------------|
| A. 4 | B. 5 |
| C. 6 | D. Error |

Technical Training (C Basics)

TCS

```
1  #include <stdio.h>
2  int main(void) {
3      for(int i = 0; i < 2; i++)
4      {
5          static int a = 4;
6          a++;
7      }
8      printf("%d", a);
9      return 0;
10 }
```

What would be the output of the above code ? Choose the correct option.

A. 4

B. 5

C. 6

D. Error

Technical Training (C Basics)

Capegemini

```
1  #include <stdio.h>
2  int a;
3  int main(void) {
4      {
5          a = 2;
6      }
7      for(int i = 0; i < 2; i++)
8      {
9          a++ ;
10         printf("%d " , a);
11     }
12     return 0 ;
13 }
```

What would be the output of the above code ? Choose the correct option.

A. 0 1

B. 2 3

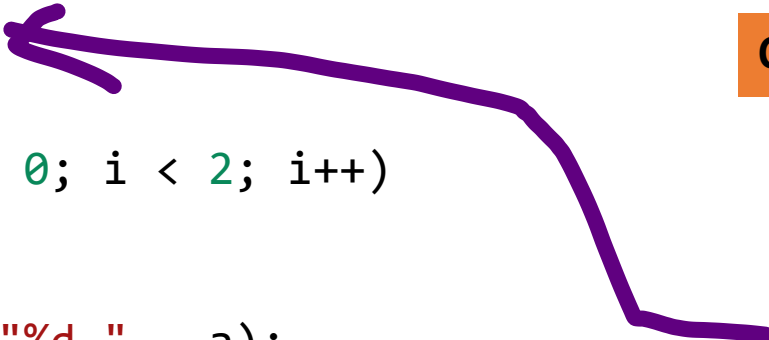
C. 3 4

D. Error

Technical Training (C Basics)

Capegemini

```
1  #include <stdio.h>
2  int a;
3  int main(void) {
4      {
5          a = 2;
6      }
7      for(int i = 0; i < 2; i++)
8      {
9          a++ ;
10         printf("%d " , a);
11     }
12     return 0 ;
13 }
```



What would be the output of the above code ? Choose the correct option.

A. 0 1

B. 2 3

C. 3 4

D. Error

agar bracket ke andar
int a hota to error hota

Technical Training (C Basics)

Infosys

```
1  #include <stdio.h>
2  int main(void) {
3      int x = 1 ;
4      printf("%d", x ); {
5          int x = 10;
6          printf("%d", x ); {
7              x;
8              printf("%d", x );
9          }
10     }
11     return 0;
12 }
```

What would be the output of the above code ? Choose the correct option.

A. 1 10 0

B. 1 10 1

C. 1 10 10

D. Error

Technical Training (C Basics)

Infosys

```
1  #include <stdio.h>
2  int main(void) {
3      int x = 1 ;
4      printf("%d", x ); {
5          int x = 10;
6          printf("%d", x ); {
7              x;
8              printf("%d", x );
9          }
10     }
11     return 0;
12 }
```

What would be the output of the above code ? Choose the correct option.

A. 1 10 0

B. 1 10 1

C. 1 10 10

D. Error

Technical Training (C Basics)

Accenture

```
1  # include<stdio.h>
2  int a = 10;
3  int main(void) {
4      {
5          a = 30;
6          {
7              {
8                  a = 20;
9                  printf("%d", a);
10             }
11         }
12         printf("%d", a);
13     }
14     return 0;
15 }
```

What would be the output of the above code ? Choose the correct option.

A. 20 20

B. 30 20

C. 10 20

D. 20 30

Technical Training (C Basics)

Accenture

```
1  # include<stdio.h>
2  int a = 10;
3  int main(void) {
4      {
5          a = 30;
6          {
7              {
8                  a = 20;
9                  printf("%d", a);
10             }
11         }
12     }
13     printf("%d", a);
14     return 0;
15 }
```

What would be the output of the above code ? Choose the correct option.

A. 20 20


B. 30 20

C. 10 20

D. 20 30

Technical Training (C Basics)

TCS



```
1  #include<stdio.h>
2  int main(void) {
3      int a = 7;
4      int s = a++ + ++a + a-- + a % 2;
5      printf("%d", s);
6  }
```

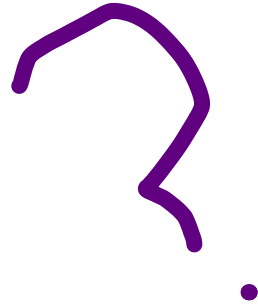
What would be the output of the above code ? Choose the correct option.

A. 28

B. 25

C. 29

D. 30



Technical Training (C Basics)

TCS

```
1  #include<stdio.h>
2  int main(void) {
3      int a = 7;
4      int s = a++ + ++a + a-- + a % 2;
5      printf("%d", s);
6  }
```

What would be the output of the above code ? Choose the correct option.

A. 28

B. 25

C. 29

D. 30

Technical Training (C Basics)

Capegemini

```
1  #include<stdio.h>
2  int main(void) {
3      int i = 1, j = 2, k, l = 1;
4      {
5          k = i++ + ++i + j || l++;
6          printf("%d %d %d", i, l, k);
7      }
8      return 0;
9  }
```

What would be the output of the above code ? Choose the correct option.

A. 2 1 1

B. 3 2 1

C. 3 1 1

D. 2 2 1



Technical Training (C Basics)

Capegemini

```
1  #include<stdio.h>
2  int main(void) {
3      int i = 1, j = 2, k, l = 1;
4      {
5          k = i++ + ++i + j || l++;
6          printf("%d %d %d", i, l, k);
7      }
8      return 0;
9  }
```

What would be the output of the above code ? Choose the correct option.

A. 2 1 1

B. 3 2 1

C. 3 1 1

D. 2 2 1

Technical Training (C Basics)

Infosys

```
1  #include <stdio.h>
2  int main(void) {
3      int a = 5;
4      int s = a-- || a-- && 4;
5      printf("%d", s);
6  }
```

What would be the output of the above code ? Choose the correct option.

A. 3

B. 4

C. 2

D. 1

2.

Technical Training (C Basics)

Infosys

```
1  #include <stdio.h>
2  int main(void) {
3      int a = 5;
4      int s = a-- || a-- && 4;
5      printf("%d", s);
6  }
```

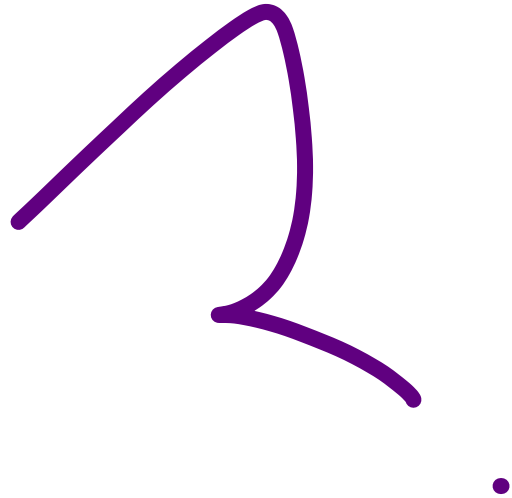
What would be the output of the above code ? Choose the correct option.

A. 3

B. 4

C. 2

D. 1



Technical Training (C Basics)

Accenture

```
1  #include<stdio.h>
2  int main(void) {
3      int i = 0, j = 2, k, l = 0;
4      {
5          k = (i++ && l++ ) || j++ + i++;
6          printf("%d %d %d", i, l, j);
7      }
8      return 0;
9  }
```

What would be the output of the above code ? Choose the correct option.

A. 1 0 2

B. 1 1 3

C. 2 0 3

D. 2 1 2

2.

Technical Training (C Basics)

Accenture

```
1  #include<stdio.h>
2  int main(void) {
3      int i = 0, j = 2, k, l = 0;
4      {
5          k = (i++ && l++ ) || j++ + i++;
6          printf("%d %d %d", i, l, j);
7      }
8      return 0;
9  }
```

What would be the output of the above code ? Choose the correct option.

A. 1 0 2

B. 1 1 3

C. 2 0 3

D. 2 1 2

Technical Training (C Basics)

Infosys

```
1  #include<stdio.h>
2  int main(void) {
3      int i = 10, j = 10;
4      int k = 4;
5      {
6          printf("%d", sizeof(k /= i+j));
7          printf("%d", k) ;
8      }
9      return 0;
10 }
```

What would be the output of the above code ? Choose the correct option.

A. 4 5

B. 4 4

C. 5 4

D. 5 5



here because of sizeof, the value of k remains same it does not gets modified.

Technical Training (C Basics)

Infosys

```
1  #include<stdio.h>
2  int main(void) {
3      int i = 10, j = 10;
4      int k = 4;
5      {
6          printf("%d", sizeof(k /= i+j));
7          printf("%d", k) ;
8      }
9      return 0;
10 }
```

What would be the output of the above code ? Choose the correct option.

A. 4 5

B. 4 4

C. 5 4

D. 5 5