

### Example 3



Write C++ program, to read 3\*4 2D-array, then find the summation of each row:

```
#include<iostream.h>

void main ( )
{
    int a [ 3 ] [ 4 ];
    int i , j, sum = 0;
    for ( i = 0 ; i < 3; i++ ) for
        ( j = 0 ; j < 4; j++ )
        cin >> a [ i ] [ j ];

    for ( i = 0 ; i < 3; i++ )
    {
        sum = 0;
        for ( j = 0 ; j < 4; j++ )
            sum += a [ i ] [ j ];
        cout << "summation of row " << i << " is: " << sum << endl;
    }
}
```

### Example 4



Write C++ program, to read 3\*4 2D-array, then replace each value equal 5 with 0:

```
#include<iostream.h>

void main ( )
{
    int a [ 3 ] [ 4 ];
    int i , j;
    for ( i = 0 ; i < 3; i++ ) for
        ( j = 0 ; j < 4; j++ )
        cin >> a [ i ] [ j ];

    for ( i = 0 ; i < 3; i++ ) for
        ( j = 0 ; j < 4; j++ )
        if ( a [ i ] [ j ] == 5 ) a [ i ] [ j ] = 0;

    for ( i = 0 ; i < 3; i++ )
    {
        for ( j = 0 ; j < 4; j++ )
            cout << a [ i ] [ j ];
        cout << endl;
    }
}
```

### Example 5



Write C++ program, to addition two 3\*4 arrays:

```
#include<iostream.h>
void main ( )
{
    int a [ 3 ] [ 4 ], b [ 3 ] [ 4 ], c [ 3 ] [ 4 ];
    int i , j;
    cout << "enter element of array A:
    \n"; for ( i = 0 ; i < 3; i++ )
        for ( j = 0 ; j < 4; j++ )
            cin >> a [ i ] [ j ];
    cout << "enter element of array B:
    \n"; for ( i = 0 ; i < 3; i++ )
        for ( j = 0 ; j < 4; j++ )
            cin >> b [ i ] [ j ];
    for ( i = 0 ; i < 3; i++ ) for
    ( j = 0 ; j < 4; j++ )
        c [ i ] [ j ] = a [ i ] [ j ] + b [ i ] [ j ];
    for ( i = 0 ; i < 3; i++ )
    {
        for ( j = 0 ; j < 4; j++ )
            cout << c [ i ] [ j ];
        cout << endl;
    }
}
```

### Example 6



Write C++ program, to convert 2D-array into 1D-array:

```
#include<iostream.h>
void main ( )
{
    int a [ 3 ] [ 4 ];
    int b [ 12 ]; int
    i , j , k = 0;

    for ( i = 0 ; i < 3; i++ ) for
    ( j = 0 ; j < 4; j++ )
        cin >> a [ i ] [ j ];


    for ( i = 0 ; i < 3; i++ ) for
    ( j = 0 ; j < 4; j++ )
    {
        b [ k ] = a [ i ] [ j ];
    }
}
```

```

        k++;
    }
    for ( i = 0 ; i < k; i++ )
        cout << b [ i ];
}

```

### Example 7

 Write C++ program, to replace each element in the main diameter (diagonal) with zero:

```
#include<iostream.h>
```

```
void main ( )
```

```
{
```

```
    int a [ 3 ] [ 3 ];
```

```
    int i , j;
```

```
    for ( i = 0 ; i < 3; i++ ) for
```

```
        ( j = 0 ; j < 3; j++ )
```

```
            cin >> a [ i ] [ j ];
```

```
    for ( i = 0 ; i < 3; i++ ) for
```

```
        ( j = 0 ; j < 3; j++ )
```

```
            if ( i == j ) a [ i ] [ j ] = 0;
```

```
    for ( i = 0 ; i < 3; i++ )
```

```
        {
```

```
            for ( j = 0 ; j < 3; j++ )
```

```
                cout << a [ i ] [ j ];
```

```
            cout << endl;
```

```
        }
```

```
}
```

0,0		
	1,1	
		2,2

i = j

0,0	0,1	0,2
1,0	1,1	1,2
2,0	2,1	2,2

i = j

0,0	0,1	0,2
1,0	1,1	1,2
2,0	2,1	2,2

i + j = n-1

0,0	0,1	0,2
1,0	1,1	1,2
2,0	2,1	2,2

i > j

0,0	0,1	0,2
1,0	1,1	1,2
2,0	2,1	2,2

i < j

### Example 8



Write C++ program, print the square root of an array:

```
#include<iostream.h>
void main ( )
{
    int a [ 3 ] [ 3 ] , b [ 3 ] [ 3 ];
    int i , j;
    for ( i = 0 ; i < 3; i++ ) { for (
        j = 0 ; j < 3; j++ ) {
            b[i][j]= sqrt(a[i][j]);
            cout << b [ i ] [ j ];
        }
    }
}
```

### Example 9



Write C++ program, to read 3\*3 2D-array, then find the summation of the main diagonal and its secondary diagonal of the array elements, finally print these elements:

```
#include<iostream.h>
void main ( )
{
    int a [ 3 ] [ 3 ];
    int i , j , x , y;
    for ( i = 0 ; i < 3; i++ ) { for (
        j = 0 ; j < 3; j++ ) {
            cin >> a [ i ] [ j ];

            if ( i == j )
                x=x+a[i][j];
            if ( i + j =4)
                y=y+a[i][j];
        }
    }
    cout << "summation of diagonal is: " << x << endl;
    cout << "summation of inverse diagonal is: " << y << endl;
}
```