

```
1 #include <bits/stdc++.h>
2 using namespace std;
3
4 const int MAX = 100;
5
6 void printDiagonalSums(int mat[][MAX], int n)
7 {
8     int principal = 0, secondary = 0;
9     for (int i = 0; i < n; i++) {
10         for (int j = 0; j < n; j++) {
11
12             if (i == j)
13                 principal += mat[i][j];
14
15             if ((i + j) == (n - 1))
16                 secondary += mat[i][j];
17         }
18     }
19
20     cout << "Principal Diagonal:" << principal << endl;
21     cout << "Secondary Diagonal:" << secondary << endl;
22 }
```

```

1 using namespace std;
2 #define N 4
3 void add(int A[][N], int B[][N], int C[][N])
4 {
5     int i, j;
6     for (i = 0; i < N; i++)
7         for (j = 0; j < N; j++)
8             C[i][j] = A[i][j] + B[i][j];
9 }
10
11 int main()
12 {
13     int A[N][N] = { { 1, 1, 1, 1 },
14                     { 2, 2, 2, 2 },
15                     { 3, 3, 3, 3 },
16                     { 4, 4, 4, 4 } };
17
18     int B[N][N] = { { 1, 1, 1, 1 },
19                     { 2, 2, 2, 2 },
20                     { 3, 3, 3, 3 },
21                     { 4, 4, 4, 4 } };
22
23     int C[N][N];
24     int i, j;
25     add(A, B, C);
26     cout << "Result matrix is " << endl;
27     for (i = 0; i < N; i++) {
28         for (j = 0; j < N; j++)
29             cout << C[i][j] << " ";
30         cout << endl;
31     }
32     return 0;
33 }

```

```

1 #include <bits/stdc++.h>
2 using namespace std;
3 #define N 4
4
5 void add(int A[][N], int B[][N], int C[][N])
6 {
7     int i, j;
8     for (i = 0; i < N; i++)
9         for (j = 0; j < N; j++)
10             C[i][j] = A[i][j] + B[i][j];
11 }
12
13 int main()
14 {
15     int A[N][N] = { { 1, 1, 1, 1 },
16                     { 2, 2, 2, 2 },
17                     { 3, 3, 3, 3 },
18                     { 4, 4, 4, 4 } };
19
20     int B[N][N] = { { 1, 1, 1, 1 },

```

Your INPUT go's here! Give only values. do not give like a=10

Result matrix is

```

2 2 2 2
4 4 4 4
6 6 6 6
8 8 8 8

```

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #define R1 2
4 #define C1 2
5 #define R2 2
6 #define C2 2
7
8 void mulMat(int mat1[][C1], int mat2[][C2])
9 {
10     int rslt[R1][C2];
11
12     printf("Multiplication of given two matrices is:\n");
13
14     for (int i = 0; i < R1; i++) {
15         for (int j = 0; j < C2; j++) {
16             rslt[i][j] = 0;
17
18             for (int k = 0; k < R2; k++) {
19                 rslt[i][j] += mat1[i][k] * mat2[k][j];
20             }
21         }
22     }
23 }
```

```
1 #include<bits/stdc++.h>
2 using namespace std;
3
4 void mergeArrays(int arr1[], int arr2[], int n1,
5                  int n2, int arr3[])
6 {
7     int i = 0, j = 0, k = 0;
8
9     while(i < n1){
10         arr3[k++] = arr1[i++];
11     }
12
13
14     while(j < n2){
15         arr3[k++] = arr2[j++];
16     }
17
18
19     sort(arr3, arr3+n1+n2);
20 }
```

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main() {
6     // Declare an array of integers.
7     int arr[] = {12, 35, 1, 10, 34, 1};
8
9     // Initialize the variables `largest` and `secondLargest` to the first element
10    int largest = arr[0];
11    int secondLargest = arr[0];
12
13    // Iterate through the array.
14    for (int i = 1; i < sizeof(arr) / sizeof(arr[0]); i++) {
15        // If the current element is greater than `largest`, then update `largest`
16        if (arr[i] > largest) {
17            secondLargest = largest;
18            largest = arr[i];
19        }
20        // If the current element is greater than `secondLargest` but smaller than `largest`
21        else if (arr[i] > secondLargest && arr[i] < largest) {
22            secondLargest = arr[i];
23        }
24    }
25}
```

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int n, i;
5     float sum = 0.0, avg;
6     float num[] = {12, 76, 23, 9, 5};
7     n = sizeof(num) / sizeof(num[0]);
8     for(i = 0; i < n; i++)
9         sum += num[i];
10    avg = sum / n;
11    cout<<"Average of all array elements is "<<avg;
12    return 0;
13 }
```



```

7   cout<<"Enter array size( Max:50 ) :: ";
8   cin>>size;
9   cout<<"\nEnter array elements :: \n";
10
11   for(i=0; i<size; i++)
12   {
13       cout<<"\nEnter arr["<<i<<"] Element :: ";
14       cin>>a[i];
15   }
16
17   cout<<"\nStored Data in Array :: \n\n";
18
19   for(i=0; i<size; i++)
20   {
21       cout<<" "<<a[i]<<" ";
22   }
23
24   cout<<"\n\nEnter position to Delete number :: ";
25   cin>>pos;
26
27   if(pos>size)
28   {
29       cout<<"\nThis is out of range.\n";
30   }
31   else
32   {
33       --pos;
34       for(i=pos; i<=size-1; i++)
35       {
36           a[i]=a[i+1];
37       }
38       cout<<"\nNew Array is :: \n\n";
39
40       for(i=0; i<size-1; i++)
41       {

```

```

Enter array size( Max:50 ) ::
Enter array elements ::

```

```

Enter arr[0] Element ::
Enter arr[1] Element ::
Enter arr[2] Element ::
Enter arr[3] Element ::
Enter arr[4] Element ::
Stored Data in Array ::

```

```

1 6 8 4 2

```

```

Enter position to Delete number ::
New Array is ::

```

```

1 6 4 2

```



```
2 using namespace std;
3 int* insertX(int n, int arr[],
4             int x, int pos)
5 {
6     int i;
7     n++;
8     for (i = n; i >= pos; i--)
9         arr[i] = arr[i - 1];
10    arr[pos - 1] = x;
11
12    return arr;
13 }
14 int main()
15 {
16     int arr[100] = { 0 };
17     int i, x, pos, n = 10;
18     for (i = 0; i < 10; i++)
19         arr[i] = i + 1;
20     for (i = 0; i < n; i++)
21         cout << arr[i] << " ";
22     cout << endl;
23     x = 50;
24     pos = 5;
25
26     insertX(n, arr, x, pos);
```

```
cout<<"\nStored Data in Array :: \n\n";
```

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

```
{
```

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

```
}
```

```
cout<<"\n\nEnter position to Delete number :: ";
```

```
cin>>pos;
```

```
if(pos>size)
```

```
{
```

```
    cout<<"\nThis is out of range.\n";
```

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    int array[] = {1, 2, 3, 4, 5};
```

```
    int size = sizeof(array) / sizeof(array[0]);
```

```
    int sum = 0;
```

```
    for (int i = 0; i < size; i++) {
```

```
        sum += array[i];
```

```
    }
```

```
    cout << "The sum of the elements in the array is: " << sum << endl;
```

```
    return 0;
```

```
}
```

```
arr[pos - 1] = x;

return arr;
}

int main()
{
    int arr[100] = { 0 };
    int i, x, pos, n = 10;

    for (i = 0; i < 10; i++)
        arr[i] = i + 1;

    for (i = 0; i < n; i++)
        cout << arr[i] << " ";
    cout << endl;

    x = 50;

    pos = 5;

    insertX(n, arr, x, pos);

    for (i = 0; i < n + 1; i++)
        cout << arr[i] << " ";
    cout << endl;
    return 0;
}
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int i,j,r;
```

```
    cout << "\n\n Display the pattern like a diamond:\n";
```

```
    cout << "-----\n";
```

```
    cout << " Input number of rows (half of the diamond): ";
```

```
    cin >> r;
```

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

```
    {
```

```
        for(j=1;j<=r-i;j++)
```

```
            cout<<" ";
```

```
        cout<<"\n";
```

```
#include<bits/stdc++.h>  
using namespace std;
```

```
int main(){
```

```
    int arr[] = {10, 20, 30, 40, 50};  
    int n = sizeof(arr)/sizeof(arr[0]);
```

```
    for(int i=n-1; i>=0; i--)  
        cout<<arr[i]<<" ";
```

```
}
```

```
1 #include <iostream>
2 #include <conio.h>
3
4 using namespace std;
5
6 int main()
7 {
8     int r,c;
9
10    for(r=1; r<=5; r++)
11    {
12        for(c=1; c<=r; c++)
13        {
14            cout<<r;
15        }
16        cout<<endl;
17    }
18    return 0;
19 }
```

Your INPUT go's here! Give only values. do not give like a=10

```
1
22
333
4444
55555
```

Activate Windows
Go to Settings to activate Windows.


```
1 #include <iostream>
2
3 using namespace std;
4
5 int main() {
6     int n;
7     n=5;
8     for (int i = 1; i <= n; i++) {
9         for (int j = 1; j <= i; j++) {
10             cout << "x ";
11         }
12         cout << endl;
13     }
14
15     return 0;
16 }
```

```
#include <iostream>
using namespace std;

int main() {

    int rows, count = 0, count1 = 0, k = 0;

    cout << "Enter number of rows: ";
    cin >> rows;

    for(int i = 1; i <= rows; ++i) {
        for(int space = 1; space <= rows-i; ++space) {
            cout << " ";
            ++count;
        }

        while(k != 2*i-1) {
            if (count <= rows-1) {
                cout << i+k << " ";
                ++count;
            }
            ++k;
        }
        cout << "\n";
    }
}
```

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     int i,j,k,l,n;
6     n=5;
7     for(i=1;i<=n;i++)
8     {
9         for(j=1;j<=n-i;j++)
10         {
11             cout<<" ";
12         }
13         for(k=1;k<=i;k++)
14         {
15             cout<<k;
16         }
17         for(l=i-1;l>=1;l--)
18         {
19             cout<<l;
20         }
21         cout<<"\n";
```