2-D array

```
#include <iostream>
using namespace std;
int main( ) {
int r  , c ;

cout<<"Enter the range of rows :"<<endl;
cin>>r;

cout<<"Enter the range of columns :"<<endl;
cin>>c;

int arr[ r ] [ c ];

cout << " Enter the values in array :"<<endl;

for ( int i = 0 ; i<r ; i ++) {

for ( int j = 0 ; j < c ; j ++) {

      cin >> arr[ i ] [ j ];
 }
}
cout << " The  values in array are  :"<<endl;
```

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

for ( int j = 0 ; j < c ; j ++) {

     cout<<arr[ i ] [ j ];
 }
cout<<endl;
}
return 0 ;
}
```

1-D array

```
#include <iostream>
using namespace std;
int main( ) {
int n;

cout<<"Enter the range of array :"<<endl;
cin>>n;

int arr[n];
cout << " Enter the values in array :"<<endl;
for ( int i = 0 ; i<n ; i ++) {
```

```
    cin >> arr[ i ] ;
 }
cout << " The  values in array are  :"<<endl;
for ( int i = 0 ; i<n ; i ++) {

    cout<< arr[ i ] ;
 }
cout<<endl;
return 0 ;
}
```

Sum of diagonal entries of matrix

```
#include <iostream>
using namespace std;
int main()
{
int r, c , sum = 0;

cout << "Enter the range of rows :" << endl;
cin >> r;

cout << "Enter the range of columns :" << endl;
cin >> c;

int arr[r][c];
```

```
cout << " Enter the values in array :" << endl;

for (int i = 0; i < r; i++)
{

for (int j = 0; j < c; j++)
{

cin >> arr[i][j];
if (i==j)
{
sum = sum + arr[i][j];
}
}
}
cout << " The values in array are :" << endl;

for (int i = 0; i < r; i++)
{

for (int j = 0; j < c; j++)
{

cout << arr[i][j]<<" ";
}
```

```
cout << endl;
}

cout<<"The sum of diagonal entries of matrix are :"<<endl;
cout<<sum<<endl;


return 0;
}
```

Bubble sorting arrays

```
#include <iostream>
using namespace std;
int main(){
    int n , i , temp;
    cout<<"Enter the range :"<<endl;
    cin>>n;
    int arr[n];
    for ( i = 0; i < n; i++)
    {
        cin>>arr[i];
    }
    for ( i = 0; i < n; i++)
    {
        for (int j = 0; j < n-1; j++)
```

```
        {
            if (arr[j]>arr[j+1])
            {
                swap (arr[j],arr[j+1]);
            }

        }

    }
    cout<<"The sorted array is :"<<endl;
    for ( i = 0; i < n; i++)
    {
        cout<<arr[i]<<" "<<endl;;
    }

    return 0;
}
```

Summation of two matrices

```
#include <iostream>
using namespace std;
int main()
{
    int r, c  ;
```

```
cout << "Enter the range of rows :" << endl;
cin >> r;

cout << "Enter the range of columns :" << endl;
cin >> c;

int m1[r][c] , m2[r][c] ,res[r][c];

cout << " Enter the values in first matrix :"<< endl;

for (int i = 0; i < r; i++)
{

    for (int j = 0; j < c; j++)
    {

        cin >> m1[i][j];
    }
}
cout << " The  values in first matrix  are  :" << endl;

for (int i = 0; i < r; i++)
{

    for (int j = 0; j < c; j++)
    {
```

```
        cout << m1[i][j]<<" ";
    }
    cout << endl;
}

 cout << " Enter the values in second matrix :"<< endl;

for (int i = 0; i < r; i++)
{

    for (int j = 0; j < c; j++)
    {

        cin >> m2[i][j];
    }
}
cout << " The  values in second matrix  are  :" << endl;

for (int i = 0; i < r; i++)
{

    for (int j = 0; j < c; j++)
    {

        cout << m2[i][j]<<" ";
```

```
        }
        cout << endl;
    }
    cout<<"Th matrix after sum is :"<<endl;

     for (int i = 0; i < r; i++)
    {

        for (int j = 0; j < c; j++)
        {

            res[i][j] = m1 [i][j] + m2[i][j];
            cout<<res[i][j]<<" ";
        }
        cout<<endl;
    }


    return 0;
}
```