**Number : 1. Write a program to insert a number at a given location in an array.**

Code :

```
#include <iostream>
using namespace std;
int main() {
    int n;
    cout << "Enter the number of elements in the array: ";
    cin >> n;
    int arr[100];
    cout << "Enter " << n << " elements:" << endl;
    for (int i = 0; i < n; i++) {
        cout << "arr[" << i << "] = ";
        cin >> arr[i];
    }
    int num;
    cout << "\nEnter the number to be inserted: ";
    cin >> num;
    int pos;
    cout << "Enter the position at which the number has to be added: ";
    cin >> pos;
    for (int i = n - 1; i >= pos; i--) {
        arr[i + 1] = arr[i];
    }
    arr[pos] = num;
    n++;
    cout << "\nThe array after insertion of " << num << " is:" << endl;
    for (int i = 0; i < n; i++) {
        cout << "arr[" << i << "] = " << arr[i] << endl;
    }
    return 0;
}
```

**Output**

```
Enter the number of elements in the array : 5
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 4
arr[4] = 5
Enter the number to be inserted : 0
Enter the position at which the number has to be added : 3
The array after insertion of 0 is :
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 0
arr[4] = 4
arr[5] = 5
```

**Number : 2 Write a program to find the mean of n numbers using arrays.**
**Code :**

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

int main() {
    int n;
    cout << "Enter the number of elements in the array: ";
    cin >> n;
    int arr[100];
    cout << "Enter " << n << " elements:" << endl;
    for (int i = 0; i < n; i++) {
        cout << "arr[" << i << "] = ";
        cin >> arr[i];
    }
    int sum = 0;
    for (int i = 0; i < n; i++) {
        sum += arr[i];
    }
    double mean = static_cast<double>(sum) / n;
    cout << "\nThe sum of the array elements = " << sum << endl;
    cout << fixed << setprecision(2);
    cout << "The mean of the array elements = " << mean << endl;
    return 0;
}
```

**Output**

```
Enter the number of elements in the array : 5
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 4
arr[4] = 5
The sum of the array elements = 15
The mean of the array elements = 3.00
```

**Number:3 Write a program to delete a number from a given location in an array.**
**Code :**

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

int main() {
    int n;
    cout << "Enter the number of elements in the array: ";
    cin >> n;
    int arr[100];
    cout << "Enter " << n << " elements:" << endl;
    for (int i = 0; i < n; i++) {
        cout << "arr[" << i << "] = ";
        cin >> arr[i];
    }
    int pos;
    cout << "Enter the position from which the number has to be deleted: ";
    cin >> pos;
    for (int i = pos; i < n - 1; i++) {
        arr[i] = arr[i + 1];
    }
    n--;
    cout << "\nThe array after deletion is:" << endl;
    for (int i = 0; i < n; i++) {
        cout << "arr[" << i << "] = " << arr[i] << endl;
    }
    return 0;
}
```

**Output**

```
Enter the number of elements in the array : 5
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 4
arr[4] = 5
Enter the position from which the number has to be deleted : 3
The array after deletion is :
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 5
```

**Number -4: Write a program to input two m × n matrices and then calculate the sum of their corresponding elements and store it in a third m × n matrix.**

**Code:**

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

int main() {
   int m, n;
   cout << "Enter the number of rows in the first matrix: ";
   cin >> m;
   cout << "Enter the number of columns in the first matrix: ";
   cin >> n;

   int matrix1[100][100];
   int matrix2[100][100];
   int result[100][100];

   cout << "\nEnter the elements of the first matrix:" << endl;
   for (int i = 0; i < m; i++) {
      for (int j = 0; j < n; j++) {
         cin >> matrix1[i][j];
      }
   }

   cout << "\nEnter the elements of the second matrix:" << endl;
   for (int i = 0; i < m; i++) {
      for (int j = 0; j < n; j++) {
         cin >> matrix2[i][j];
      }
   }

   for (int i = 0; i < m; i++) {
      for (int j = 0; j < n; j++) {
         result[i][j] = matrix1[i][j] + matrix2[i][j];
      }
   }

   cout << "\nThe elements of the resultant matrix are:" << endl;
   for (int i = 0; i < m; i++) {
      for (int j = 0; j < n; j++) {
         cout << result[i][j] << " ";
      }
      cout << endl;
   }    return 0;}
```

## Output

```
Enter the number of rows in the first matrix: 2
Enter the number of columns in the first matrix: 2
Enter the number of rows in the second matrix: 2
Enter the number of columns in the second matrix: 2
Enter the elements of the first matrix
1 2 3 4
Enter the elements of the second matrix
5 6 7 8
The elements of the resultant matrix are
6 8
10 12
```