

```
1 #include <iostream>
2 using namespace std;
3
4 void reverseArray(int arr[], int size) {
5     for (int i = 0; i < size / 2; i++) {
6         int temp = arr[i];
7         arr[i] = arr[size - i - 1];
8         arr[size - i - 1] = temp;
9     }
10 }
11
12 int main() {
13     int arr[] = {1, 2, 3, 4, 5};
14     int size = sizeof(arr) / sizeof(arr[0]);
15
16     cout << "Original array: ";
17     for (int i = 0; i < size; i++) {
18         cout << arr[i] << " ";
19     }
20     cout << endl;
21
22     reverseArray(arr, size);
23
24     cout << "Reversed array: ";
25     for (int i = 0; i < size; i++) {
26         cout << arr[i] << " ";
27     }
28     cout << endl;
29 }
```

```
D:\os programs\Reverse elem
Original array: 1 2 3 4 5
Reversed array: 5 4 3 2 1

-----
Process exited after 0.06432 seconds with return value 0
Press any key to continue . . .
```

```
- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Reverse elements in array.exe
- Output Size: 2.98930168151855 MiB
- Compilation Time: 2.59s
```

D:\os programs\Insert element in array.cpp - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project Class Insert element in array.cpp

```
1 #include <iostream>
2 using namespace std;
3
4 void insertElement(int arr[], int& size, int position, int element) {
5     if (position < 0 || position > size) {
6         cout << "Invalid position!" << endl;
7         return;
8     }
9
10    for (int i = size; i > position; i--) {
11        arr[i] = arr[i - 1];
12    }
13
14    arr[position] = element;
15    size++;
16 }
17
18 int main() {
19     int arr[10] = {1, 2, 3, 4, 5};
20     int size = 5;
21     int element = 10;
22     int position = 2;
23
24     cout << "Original array: ";
25     for (int i = 0; i < size; i++) {
26         cout << arr[i] << " ";
27     }
28     cout << endl;
29 }
```

D:\os programs\Insert elemer

Original array: 1 2 3 4 5
Array after insertion: 1 2 10 3 4 5

Process exited after 0.01108 seconds with return value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

Shorten compiler pat

- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Insert element in array.exe
- Output Size: 2.98930740356445 MiB
- Compilation Time: 0.56s

Line: 40 Col: 1 Sel: 0 Lines: 40 Length: 820 Insert Done parsing in 0 seconds

33°C Light rain

Search

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```
1 #include <iostream>
2 using namespace std;
3
4 void deleteElement(int arr[], int& size, int position) {
5     if (position < 0 || position >= size) {
6         cout << "Invalid position!" << endl;
7         return;
8     }
9
10    for (int i = position; i < size - 1; i++) {
11        arr[i] = arr[i + 1];
12    }
13
14    size--;
15 }
16
17 int main() {
18     int arr[10] = {1, 2, 3, 4, 5};
19     int size = 5;
20     int position = 2;
21
22     cout << "Original array: ";
23     for (int i = 0; i < size; i++) {
24         cout << arr[i] << " ";
25     }
26     cout << endl;
27
28     deleteElement(arr, size, position);
29 }
```

D:\os programs\Delete an ele

Original array: 1 2 3 4 5
Array after deletion: 1 2 4 5

Process exited after 0.06414 seconds with return value 0
Press any key to continue . . .

Abort Compilation

- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Delete an element in an array.exe
- Output Size: 2.98931121826172 MiB
- Compilation Time: 0.58s

☐ Shorten compiler pat

```
1 #include <iostream>
2 using namespace std;
3
4 int arraySum(int arr[], int size) {
5     int sum = 0;
6     for (int i = 0; i < size; i++) {
7         sum += arr[i];
8     }
9     return sum;
10 }
11
12 int main() {
13     int arr[] = {1, 2, 3, 4, 5};
14     int size = sizeof(arr) / sizeof(arr[0]);
15
16     int sum = arraySum(arr, size);
17
18     cout << "Sum of array elements: " << sum << endl;
19
20     return 0;
21 }
22
```

```
D:\os programs\Sum of elemi
Sum of array elements: 15

-----
Process exited after 0.08047 seconds with return value
0
Press any key to continue . . . |
```

```
- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Sum of elements in array.exe
- Output Size: 2.98880290985107 MiB
- Compilation Time: 0.52s
```



```
1 #include <iostream>
2 using namespace std;
3
4 double arrayAverage(int arr[], int size) {
5     if (size == 0) return 0; // Avoid division by zero
6
7     int sum = 0;
8     for (int i = 0; i < size; i++) {
9         sum += arr[i];
10    }
11    return static_cast<double>(sum) / size;
12 }
13
14 int main() {
15     int arr[] = {1, 2, 3, 4, 5};
16     int size = sizeof(arr) / sizeof(arr[0]);
17
18     double average = arrayAverage(arr, size);
19
20     cout << "Average of array elements: " << average << endl;
21
22     return 0;
23 }
24
```

Average of array elements: 3

```
-----
Process exited after 0.07525 seconds with return value
0
Press any key to continue . . .
```

Abort Compilation

```
- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Average of all elements in an array.exe
- Output Size: 2.98882293701172 MiB
- Compilation Time: 0.50s
```

☐ Shorten compiler path

```
3 using namespace std;
4
5 int findSecondLargest(int arr[], int size) {
6     int largest = INT_MIN;
7     int secondLargest = INT_MIN;
8
9     for (int i = 0; i < size; i++) {
10         if (arr[i] > largest) {
11             secondLargest = largest;
12             largest = arr[i];
13         } else if (arr[i] > secondLargest && arr[i] != largest) {
14             secondLargest = arr[i];
15         }
16     }
17
18     return secondLargest;
19 }
20
21 int main() {
22     int arr[] = {1, 5, 3, 9, 7};
23     int size = sizeof(arr) / sizeof(arr[0]);
24
25     int secondLargest = findSecondLargest(arr, size);
26
27     cout << "Second largest element: " << secondLargest << endl;
28
29     return 0;
30 }
31
```

D:\os programs\second large: x + -

Second largest element: 7

Process exited after 0.007414 seconds with return value 0
Press any key to continue . . .

Abort Compilation

- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\second largest element in an array.exe
- Output Size: 2.98931980133057 MiB
- Compilation Time: 0.56s

☐ Shorten compiler path

```
1 #include <iostream>
2 using namespace std;
3
4 int countOccurrences(int arr[], int size, int value) {
5     int count = 0;
6     for (int i = 0; i < size; i++) {
7         if (arr[i] == value) {
8             count++;
9         }
10    }
11    return count;
12 }
13
14 int main() {
15     int arr[] = {1, 2, 2, 3, 2, 4, 2};
16     int size = sizeof(arr) / sizeof(arr[0]);
17     int value = 2;
18
19     int occurrences = countOccurrences(arr, size, value);
20
21     cout << "Number of occurrences of " << value << ": " << occurrences << endl;
22
23     return 0;
24 }
25
```

Number of occurrences of 2: 4

Process exited after 0.07259 seconds with return value 0
Press any key to continue . . .

Abort Compilation

- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\occurrences of a value in an array.exe
- Output Size: 2.98931980133057 MiB
- Compilation Time: 0.58s

☐ Shorten compiler path

D:\os programs\merge teo arrays.cpp - [Executing] - Embarcadero Dev-C++ 6.3

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TDM-GCC 9.2.0 64-bit Release

(globals)

Project Clas merge teo arrays.cpp

```
1 #include <iostream>
2 using namespace std;
3
4 void mergeArrays(int arr1[], int size1, int arr2[], int size2, int merged[]) {
5     int i = 0, j = 0, k = 0;
6
7     while (i < size1 && j < size2) {
8         if (arr1[i] < arr2[j]) {
9             merged[k++] = arr1[i++];
10        } else {
11            merged[k++] = arr2[j++];
12        }
13    }
14
15    while (i < size1) {
16        merged[k++] = arr1[i++];
17    }
18
19    while (j < size2) {
20        merged[k++] = arr2[j++];
21    }
22 }
23
24 int main() {
25     int arr1[] = {1, 3, 5};
26     int size1 = sizeof(arr1) / sizeof(arr1[0]);
27     int arr2[] = {2, 4, 6};
28     int size2 = sizeof(arr2) / sizeof(arr2[0]);
29     int merged[size1 + size2];
30 }
```

Merged array: 1 2 3 4 5 6

Process exited after 0.08703 seconds with return value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

Shorten compiler pat

- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\merge teo arrays.exe
- Output Size: 2.98930072784424 MiB
- Compilation Time: 0.53s

Line: 41 Col: 1 Sel: 0 Lines: 41 Length: 899 Insert Done parsing in 0.016 seconds

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Search

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```
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     int size;
6     cout << "Enter the size of the array: ";
7     cin >> size;
8
9     int* dynamicArray = new int[size];
10
11     cout << "Enter " << size << " elements: " << endl;
12     for (int i = 0; i < size; i++) {
13         cin >> dynamicArray[i];
14     }
15
16     cout << "Dynamic array elements: ";
17     for (int i = 0; i < size; i++) {
18         cout << dynamicArray[i] << " ";
19     }
20     cout << endl;
21
22     delete[] dynamicArray; // Don't forget to free the memory
23     return 0;
24 }
25
```

```
Enter the size of the array: 14
Enter 14 elements:
12 21 54 65 98 6532 44 22 11 22 11 22 33 44
Dynamic array elements: 12 21 54 65 98 6532 44 22 11 22 11 22 33
44

-----
Process exited after 24.24 seconds with return value 0
Press any key to continue . . .
```

```
- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\dynamic array using pointers.exe
- Output Size: 2.98925399780273 MiB
- Compilation Time: 0.59s
```

D:\os programs\Multiply two matrices.cpp - [Executing] - Embarcadero Dev-C++ 6.3

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TDM-GCC 9.2.0 64-bit Release

(globals)

Project Class Multiply two matrices.cpp

```
1 #include <iostream>
2 using namespace std;
3
4 const int MAX_SIZE = 100;
5
6 void multiplyMatrices(int mat1[][MAX_SIZE], int mat2[][MAX_SIZE], int result[][MAX_SIZE], int rows1, int cols1, int cols2) {
7     for (int i = 0; i < rows1; i++) {
8         for (int j = 0; j < cols2; j++) {
9             result[i][j] = 0;
10            for (int k = 0; k < cols1; k++) {
11                result[i][j] += mat1[i][k] * mat2[k][j];
12            }
13        }
14    }
15 }
16
17 void displayMatrix(int mat[][MAX_SIZE], int rows, int cols) {
18     for (int i = 0; i < rows; i++) {
19         for (int j = 0; j < cols; j++) {
20             cout << mat[i][j] << " ";
21         }
22         cout << endl;
23     }
24 }
25
26 int main() {
27     int mat1[][MAX_SIZE] = {{1, 2, 3}, {4, 5, 6}, {7, 8, 9}};
28     int mat2[][MAX_SIZE] = {{9, 8, 7}, {6, 5, 4}, {3, 2, 1}};
29     int rows1 = 3, cols1 = 3, rows2 = 3, cols2 = 3;
```

Resultant Matrix:
30 24 18
84 69 54
138 114 90

Process exited after 0.09926 seconds with return value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

Shorten compiler path

- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Multiply two matrices.exe
- Output Size: 2.98989105224609 MiB
- Compilation Time: 0.52s

Line: 39 Col: 1 Sel: 0 Lines: 39 Length: 1086 Insert Done parsing in 0.015 seconds

33°C Light rain

Search

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D:\os programs\Add two Matrices.cpp - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project Class Add two Matrices.cpp

```
8   for (int j = 0; j < cols; j++) {
9       result[i][j] = mat1[i][j] + mat2[i][j];
10  }
11
12 }
13
14 void displayMatrix(int mat[][MAX_SIZE], int rows, int cols) {
15     for (int i = 0; i < rows; i++) {
16         for (int j = 0; j < cols; j++) {
17             cout << mat[i][j] << " ";
18         }
19         cout << endl;
20     }
21 }
22
23 int main() {
24     int mat1[][MAX_SIZE] = {{1, 2, 3}, {4, 5, 6}, {7, 8, 9}};
25     int mat2[][MAX_SIZE] = {{9, 8, 7}, {6, 5, 4}, {3, 2, 1}};
26     int rows = 3, cols = 3;
27     int result[MAX_SIZE][MAX_SIZE];
28
29     addMatrices(mat1, mat2, result, rows, cols);
30
31     cout << "Resultant Matrix:" << endl;
32     displayMatrix(result, rows, cols);
33
34     return 0;
35 }
36
```

Resultant Matrix:
10 10 10
10 10 10
10 10 10

Process exited after 0.07593 seconds with return value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

Shorten compiler pat

- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Add two Matrices.exe
- Output Size: 2.98987483978271 MiB
- Compilation Time: 0.53s

Line: 10 Col: 10 Sel: 0 Lines: 36 Length: 928 Insert Done parsing in 0.016 seconds

```
1  #include <iostream>
2  using namespace std;
3
4  const int MAX_SIZE = 100;
5
6  int sumOfDiagonals(int mat[][MAX_SIZE], int size) {
7      int sum = 0;
8      for (int i = 0; i < size; i++) {
9          sum += mat[i][i]; // Sum of main diagonal
10         sum += mat[i][size - i - 1]; // Sum of secondary diagonal
11     }
12     // If the size is odd, subtract the middle element to avoid double
13     if (size % 2 != 0) {
14         sum -= mat[size / 2][size / 2];
15     }
16     return sum;
17 }
18
19 int main() {
20     int size;
21     cout << "Enter the size of the square matrix: ";
22     cin >> size;
23
24     int mat[MAX_SIZE][MAX_SIZE];
25
26     cout << "Enter the elements of the matrix:" << endl;
27     for (int i = 0; i < size; i++) {
28         for (int j = 0; j < size; j++) {
29             cin >> mat[i][j];
```

```
D:\os programs\Sum of diag
Enter the size of the square matrix: 3
Enter the elements of the matrix:
5
4 5 5 5 5
5 4
65
Sum of diagonals: 85

-----
Process exited after 19.83 seconds with return value 0
Press any key to continue . . . |
```

```
- Errors: 0
- Warnings: 0
- Output Filename: D:\os programs\Sum of diagonal of Matrix.exe
- Output Size: 2.98934459686279 MiB
- Compilation Time: 0.55s
```