Resized

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

void resize(int* &arr, int size, int newSize) {
    if (newSize > 0) {
        int* newArr = new int[newSize];

        if (size >= newSize) {
            for (int i = 0; i < newSize; i++) {
                newArr[i] = arr[i];
            }
        }
        else if (size < newSize) {
            for (int i = 0; i < size; i++) {
                newArr[i] = arr[i];
            }
            for (int i = size; i < newSize; i++) {
                newArr[i] = 0;
            }
        }
        delete[]arr;
        arr = newArr;
    }
    else return;
}

int main(){
    int size = 5;
    int* arr = new int[size] {1, 2, 3, 4, 5};

    cout << "initial" << endl;
    for (int i = 0; i < size; ++i) {
        cout << arr[i] << " ";
    }
    cout << endl;

    int newSize;
    cout << "Enter new size for the array: ";
    cin >> newSize;

    resize(arr, size, newSize);
```

```
    cout << "resized" << endl;
    for (int i = 0; i < newSize; ++i){
        cout << arr[i] << " ";
    }
    cout << endl;

    delete[] arr;
    return 0;
}
```

```
initial
1 2 3 4 5
Enter new size for the array: 9
resized
1 2 3 4 5 0 0 0 0
```

Remove Duplicates

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

void GetData(int* array, int size) {
    for (int i = 0; i < size; i++) {
        cin >> array[i];
    }
}

int* Merge(int* array1, int size1, int* array2, int size2) {
    int size3 = size1 + size2;
    int* array3 = new int[size3];

    for (int i = 0; i < size1; i++) {
        array3[i] = array1[i];
    }

    for (int i = 0; i < size2; i++) {
        array3[size1 + i] = array2[i];
    }
}
```

```cpp
        return array3;
}

void DisplayData(int* array, int size) {

    for (int i = 0; i < size; i++) {
        cout << array[i] << " ";
    }
    cout << endl;
}

int RemoveDuplicates(int* array, int size) {
    int newSize = 0;

    for (int i = 0; i < size; i++) {
        bool isDuplicate = false;

        for (int j = 0; j < newSize; j++) {
            if (array[i] == array[j]) {
                isDuplicate = true;
                break;
            }
        }

        if (!isDuplicate) {
            array[newSize++] = array[i];
        }
    }

    return newSize;
}

int main() {
    int size1, size2, size3;
    cout << "Enter size of both arrays with space" << endl;
    cin >> size1 >> size2;
    size3 = size1 + size2;

    int* array1 = new int[size1];
    int* array2 = new int[size2];
    cout << "Enter elements for array 1" << endl;
    GetData(array1, size1);
    cout << "Enter elements for array 2" << endl;
    GetData(array2, size2);
```

```cpp
    int* array3 = Merge(array1, size1, array2, size2);
    cout << "The merge arrays is : " << endl;
    DisplayData(array3, size3);

    cout << "After removing duplicates element : " << endl;
    int nSize = RemoveDuplicates(array3, size3);
    DisplayData(array3, nSize);

    delete[] array1;
    delete[] array2;
    delete[] array3;

    return 0;
}
```

```
Enter size of both arrays with space
5 5
Enter elements for array 1
1 2 5 6 7
Enter elements for array 2
8 9 6 5 1
The merge arrays is :
1 2 5 6 7 8 9 6 5 1
After removing duplicates element :
1 2 5 6 7 8 9
```