

• Rotate Array

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

// Function to dynamically initialize an integer array of the given size
void allocateMemory(int*& ans, int size) {
    ans = new int[size];
}

// Function to rotate the elements of the array a, k positions to the right
void RotateArray(int* ans, int size, int k) {
    int* temp = new int[k];

    // Copy the last k elements to temporary array
    for (int i = 0; i < k; i++) {
        temp[i] = ans[size - k + i];
    }
    // Shift the remaining elements to the right
    for (int i = size - 1; i >= k; i--) {
        ans[i] = ans[i - k];
    }
    // Copy back the temporary array to the beginning
    for (int i = 0; i < k; i++) {
        ans[i] = temp[i];
    }
    delete[] temp;
}

// Function to deallocate memory assigned to the integer array
void deallocateMemory(int*& ans) {
    delete[] ans;
    ans = nullptr;
}

int main() {
    int* ans = nullptr;
    int size, k;

    cout << "Enter the size of the array: ";
    cin >> size;

    cout << "Enter the value of k: ";
    cin >> k;

    // Function1: dynamically initializes an integer array of the given size
    allocateMemory(ans, size);

    cout << "Enter the elements of the array:" << endl;
    for (int i = 0; i < size; i++)
        cin >> ans[i];

    // Function2: RotateArray
    RotateArray(ans, size, k);

    cout << "Rotatate array is :" << endl;
    for (int i = 0; i < size; i++)
        cout<< ans[i]<<" ";
}
```

```

    // Function3: deallocates memory assigned to the integer array
    deallocateMemory(ans);
}

```

- Output

```

Enter the size of the array: 8
Enter the value of k: 1
Enter the elements of the array:
2 3 4 5 6 7 8 9
Rotatate array is :
9 2 3 4 5 6 7 8

```

2:

```

Enter the size of the array: 8
Enter the value of k: 3
Enter the elements of the array:
2 3 4 5 6 7 8 9
Rotatate array is :
7 8 9 2 3 4 5 6
D:\Pointer\x64\Debug\Pointer.exe (process 14324) exited with code 0.
Press any key to close this window . . .|

```