COMP-165-0837

Merlin Newcomb

Final Exam

Problem #2

Code:

#include <iostream>

using namespace std;

// Takes pointer to array and size of pointer, returns pointer to array one element larger and elements shifted to the right. Index 0 is set to 0.

int\* extendArray(const int\* const arr, const int size);

// Demonstration of extendArray, user can input array of any size

int main(void)

{

int userSize;

cout << "Enter number of elements: " << flush;

cin >> userSize;

int\* arr = new int[userSize];

cout << "Enter array elements:" << endl;

for (int i = 0; i < userSize; i++)

{

cin >> arr[i];

}

int\* newArr = extendArray(arr, userSize);

cout << "New array elements: ";

for (int i = 0; i < userSize + 1; i++)

{

cout << newArr[i] << ", ";

}

cout << endl;

}

int\* extendArray(const int\* const arr, const int size)

{

int\* ret = new int[size + 1];

ret[0] = 0;

for (int i = 1; i <= size; i++)

{

ret[i] = arr[i - 1];

}

return ret;

}

Output:

