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/*
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    CS A250
    Lab 1 - Array Insertion
*/

#include <iostream>
#include <string>
#include <array>
using namespace std;

const int CAPACITY = 10;

// Declaration function insertAtIndex
// Your code here...
void insertAtIndex(int a[], int& numberOfElements, int element, const size_t& index);
#include "Testing.hxx"

int main( )
{
    testCases();

    cout << endl;
    system("Pause");
    return 0;
}

// Definition function insertAtIndex
//Your code here...

void insertAtIndex(int a[], int& numberOfElements, int element, const size_t& index)
{
    if (numberOfElements == CAPACITY)
    {
        cout << "Array is full. Cannot insert another element." << endl;
    }
    else if (index > numberOfElements)
    {
        cout << "You can only insert contiguous elements in the array." << endl;
    }
    else if (index > CAPACITY)
    {
        cout << "The array cannot have more than " << CAPACITY << "elements." << endl;
    }
}
```

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    }
    else
    {
        for (int i = numberOfElements; i > index; i--)
        {
            a[i] = a[i - 1];

        }
        a[index] = element;
        numberOfElements++;
    }

}
```