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// This program shows the donations made to the United Cause
// by the employees of CK Graphics, Inc. It displays
// the donations in order from lowest to highest
// and in the original order they were received.
#include <iostream>
using namespace std;

// Function prototypes
void arrSelectSort(int *[], int);
void showArray(const int [], int);
void showArrPtr(int *[], int);

int main()
{
    const int NUM_DONATIONS = 15; // Number of donations

    // An array containing the donation amounts.
    int donations[NUM_DONATIONS] = { 5, 100, 5, 25, 10,
                                      5, 25, 5, 5, 100,
                                      10, 15, 10, 5, 10 };

    // An array of pointers to int.
    int *arrPtr[NUM_DONATIONS] = { nullptr, nullptr, nullptr, nullptr,
    nullptr,
                                nullptr, nullptr, nullptr, nullptr,
    nullptr,
                                nullptr, nullptr, nullptr, nullptr,
    nullptr };

    // Each element of arrPtr is a pointer to int. Make each
    // element point to an element in the donations array.
    for (int count = 0; count < NUM_DONATIONS; count++)
        arrPtr[count] = &donations[count];

    // Sort the elements of the array of pointers.
    arrSelectSort(arrPtr, NUM_DONATIONS);

    // Display the donations using the array of pointers. This
    // will display them in sorted order.
    cout << "The donations, sorted in ascending order are: \n";
    showArrPtr(arrPtr, NUM_DONATIONS);

    // Display the donations in their original order.
    cout << "The donations, in their original order are: \n";
    showArray(donations, NUM_DONATIONS);
    return 0;
}

//*****
// Definition of function arrSelectSort. *
// This function performs an ascending order selection sort on *
// arr, which is an array of pointers. Each element of array *
// points to an element of a second array. After the sort, *
// arr will point to the elements of the second array in *
// ascending order. *
//*****

void arrSelectSort(int *arr[], int size)

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{
    int startScan, minIndex;
    int *minElem;

    for (startScan = 0; startScan < (size - 1); startScan++)
    {
        minIndex = startScan;
        minElem = arr[startScan];
        for(int index = startScan + 1; index < size; index++)
        {
            if (*(arr[index]) < *minElem)
            {
                minElem = arr[index];
                minIndex = index;
            }
        }
        arr[minIndex] = arr[startScan];
        arr[startScan] = minElem;
    }
}

//*****
// Definition of function showArray.                                     *
// This function displays the contents of arr. size is the             *
// number of elements.                                                 *
//*****

void showArray(const int arr[], int size)
{
    for (int count = 0; count < size; count++)
        cout << arr[count] << " ";
    cout << endl;
}

//*****
// Definition of function showArrPtr.                                    *
// This function displays the contents of the array pointed to        *
// by arr. size is the number of elements.                             *
//*****

void showArrPtr(int *arr[], int size)
{
    for (int count = 0; count < size; count++)
        cout << *(arr[count]) << " ";
    cout << endl;
}

```