**Windows Version**

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CISP 360 - M/W 1:30pm - 2:50pm

Spring 2017

Assignment #12 Sorting Orders

Sort the list of numbers

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#include <iostream>

using namespace std;

//Function Prototypes

void bubbleSort(int[], int);

void selectionSort(int[], int);

//Number Sorter

int main (){

//Initialization of Variables and Arrays

int array1[] = {102, 105, 107, 103, 106, 100, 104, 101};

int array2[] = {102, 105, 107, 103, 106, 100, 104, 101};

int size1 = 9;

int size2 = 8;

//Prompt user what sorting method is occuring and shows the results of every pass

cout << "Now performing the bubble sort" << endl;

cout << "------------------------------" << endl;

bubbleSort(array1, size1);

cout << endl << endl << "Now performing the selection sort" << endl;

cout << "---------------------------------" << endl;

selectionSort(array2, size2);

return 0;

}

//Bubble Sort Method

void bubbleSort (int a1[], int elems)

{

bool swap; //Flag

int temp; //Temporary Variable

do

{

swap = false;

int i;

cout << "After pass " << i << ": ";

//For every pass, check the elements

for (int count = 0; count < (elems - 1); count++)

{

//When a smaller number is found it will change the spots of the first and next elements

if (a1[count] > a1[count +1])

{

temp = a1[count];

a1[count] = a1[count + 1];

a1[count + 1] = temp;

swap = true;

}

cout << a1[count] << " ";

}

cout << endl;

i++;

} while (swap);

}

//Selection Sort Method

void selectionSort(int array[], int elems)

{

int seek, minCount, minValue; //Initailize Variables

//Check if number is smaller than min

for (seek = 0; seek < (elems - 1); seek++)

{

minCount = seek;

minValue = array[seek];

cout << "After pass " << seek+1 << ": ";

for (int index = seek + 1; index < elems; index++)

{

//When the number is smaller than the min, replace it and sort it

if (array[index] < minValue)

{

minValue = array[index];

minCount = index;

}

}

array[minCount] = array[seek];

array[seek] = minValue;

//Output with the sorted numbers

for (int count = 0; count < elems; count++)

cout << array[count] << " ";

cout << endl;

}

}

