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***Aim-Implement Sorting Algoritms on Strings-Bubble Sort & Selection Sort***

***CODE:***

#include<iostream>

#include<string.h>

usingnamespace std;

void printStrings(char\*\* arr,intsize){

for(int i=0;i<size;i++){

cout<<arr[i]<<"\t";

}cout<<endl;

}

void selectionSort(char\*\* arr,intsize,boolascendingOrder){

char \*temp=NULL;int i,j,maxElementIndex;

for(i=size-1;i>0;i--){

maxElementIndex=0;

for(j=1;j<=i;j++){

if(ascendingOrder){

if(strcmp(arr[maxElementIndex],arr[j])<0){ //here maxElementIndex should be j

maxElementIndex=j;

}

}else{

if(strcmp(arr[maxElementIndex],arr[j])>0){

maxElementIndex=j; //here maxElementIndex is actually minElementIndex

}

}

}

temp=arr[maxElementIndex]; //shift element to the end of unsorted array

arr[maxElementIndex]=arr[i];

arr[i]=temp;

cout<<"Iteration"<<size-i<<" ";printStrings(arr,size);

}

}

void bubbleSort(char \*\*arr,intsize,boolascendingOrder){

char \*temp=NULL;int i,j;

int swapped=1;

for(i=0;i<size-1 && swapped==1;i++){

swapped=0;

for(j=0;j<size-i-1;j++){

if(ascendingOrder){ //ascending order

if(strcmp(arr[j],arr[j+1])>0){ //first string greater

swapped=1;

temp=arr[j];

arr[j]=arr[j+1];

arr[j+1]=temp;

}

}else{ //descending order

if(strcmp(arr[j],arr[j+1])<0){ //first string smaller

swapped=1;

temp=arr[j];

arr[j]=arr[j+1];

arr[j+1]=temp;

}

}

}

cout<<"Iteration"<<i+1<<" ";printStrings(arr,size);

}

}

int main(){

char \*names[6]={"New Zealand","India","Australia","Raj","Shreya","Jugal"};

selectionSort(names,6,true);cout<<endl;

bubbleSort(names,6,true);cout<<endl;

/\*for(int i=0;i<6;i++)cout<<names[i]<<"\t";

cout<<endl;\*/

bubbleSort(names,6,false);cout<<endl;

/\*for(int i=0;i<6;i++)cout<<names[i]<<"\t";

cout<<endl;\*/selectionSort(names,6,true);cout<<endl;

selectionSort(names,6,false);cout<<endl;

return 0;

}

***Output:***

