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#include <stdio.h>

#include <stdlib.h>

#include <math.h>

int main(){

srand(time(NULL));

int size, \*firstArray, \*secondArray, \*yourArray, i;

double firstDistance = 0, secondDistance = 0;

printf("Enter the array size: ");

scanf("%d",&size);

firstArray = (int \*)malloc(sizeof(int)\*size);

secondArray = (int \*)malloc(sizeof(int)\*size);

yourArray = (int \*)malloc(sizeof(int)\*size);

if (firstArray==NULL || secondArray==NULL || yourArray==NULL){

printf("Error while allocating the memory!");

exit(-1);

}

printf("\nFirst array created as: ");

for(i=0;i<size;i++){ // populates both arrays at the same time prints the firstArray, I think this way is more effecient.

firstArray[i] = rand()%101;

printf("%d ",firstArray[i]);

secondArray[i] = rand()%101;

}

printf("\nSecond array created as: ");

for(i=0;i<size;i++) // prints the secondArray

printf("%d ",secondArray[i]);

printf("\n\nEnter your array data: ");

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

if (i == size-1){ // for last element of yourArray

scanf("%d",&yourArray[i]);

continue;

}

scanf("%d ",&yourArray[i]);

}

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

firstDistance += pow(firstArray[i]-yourArray[i], 2);

secondDistance += pow(secondArray[i]-yourArray[i], 2);

}

firstDistance = sqrt(firstDistance);

secondDistance = sqrt(secondDistance);

printf("\nDistance of your array to the first array: %.4lf",firstDistance);

printf("\nDistance of your array to the second array: %.4lf",secondDistance);

if(firstDistance > secondDistance)

printf("\n\nYour array is more similar to the second array!");

else if(firstDistance < secondDistance)

printf("\n\nYour array is more similar to the first array!");

else

printf("\n\nYour array is the same to the both arrays!");

free(firstArray);

free(secondArray);

free(yourArray);

return 0;

}