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#include<iostream>

#include<conio.h>

#include<stdlib.h>

#include<string>

using namespace std;

struct pahala{

int nomor;

string nama;

int sedekah;

};

int size;

pahala phl[100];

//BUBBLE SORT

void bubble(pahala phl[], int size){

int tipe;

pahala swap;

cout<<"================== MENU SORT ==================\n"

<<"=============== TIPE PENGURUTAN ===============\n"

<<"\n"

<<"1. Ascending\n"

<<"2. Descending"

<<"\n"

<<"Pilih : ";

cin>>tipe;

switch(tipe){

case 1:

for (int x=0; x<size-1; x++){

for(int y=0; y<size-1; y++){

if(phl[y].nama > phl[y+1].nama){

swap = phl[y];

phl[y] = phl[y+1];

phl[y+1] = swap;

}

}

}

break;

case 2:

for(int x=0; x<size-1; x++){

for(int y=0; y<size-1; y++){

if(phl[y].nama < phl[y+1].nama){

swap = phl[y];

phl[y] = phl[y+1];

phl[y+1] = swap;

}

}

}

break;

break;

}

}

void swap(pahala \*xp, pahala \*yp){

pahala temp = \*xp;

\*xp = \*yp;

\*yp = temp;

}

//SELECTION SORT

void selection(pahala phl[], int size){

int min;

int tipe;

cout<<"================== MENU SORT ==================\n"

<<"=============== TIPE PENGURUTAN ===============\n"

<<"\n"

<<"1. Ascending\n"

<<"2. Descending"

<<"\n"

<<"Pilih : ";

cin>>tipe;

for (int x=0; x<size-1; x++){

min = x;

for (int y=x+1; y<size; y++){

switch (tipe){

case 1:

if (phl[y].sedekah < phl[min].sedekah){

min = y;

}

break;

case 2:

if (phl[y].sedekah > phl[min].sedekah){

min = y;

}

break;

}

}

swap(&phl[x], &phl[min]);

}

}

//FUNGSI MENAMBAHKAN DATA INPUTAN USER KE DALAM ARRAY STRUCT

void create(){

int banyakdonate, banyakdata;

int indeks;

cout<<"Masukkan berapa banyak jumlah donatur : ";

cin>>banyakdonate;

cout<<"\n";

banyakdata = 0;

for(indeks=0; indeks<banyakdonate; indeks++){

banyakdata = banyakdata + 1;

cout<<"Nomor Donatur : "<<banyakdata<<endl;

phl[indeks].nomor = banyakdata;

cout<<"Nama : ";

cin>>phl[indeks].nama;

cout<<"Jumlah Sedekah : Rp.";

cin>>phl[indeks].sedekah;

cout<<"\n";

size++;

}

cout<<"DATA BERHASIL DITAMBAHKAN\n";

cout<<"\n";

cout<<"TEKAN ENTER UNTUK KEMBALI KE MENU AWAL";

getch();

system("cls");

}

//QUICK SORT

int partition\_ascen (pahala phl[], int low, int high){

int pivot = phl[high].nomor;

int x=(low - 1);

for (int y=low; y<=high- 1; y++){

if (phl[y].nomor <= pivot){

x++;

swap(&phl[x], &phl[y]);

}

}

swap(&phl[x + 1], &phl[high]);

return (x + 1);

}

int partition\_descen (pahala phl[], int low, int high){

int pivot = phl[high].nomor;

int x=(low - 1);

for (int y=low; y<=high- 1; y++){

if (phl[y].nomor >= pivot){

x++;

swap(&phl[x], &phl[y]);

}

}

swap(&phl[x + 1], &phl[high]);

return (x + 1);

}

void quick\_ascen(pahala phl[], int low, int high){

if (low < high){

int pi = partition\_ascen(phl, low, high);

quick\_ascen(phl, low, pi-1);

quick\_ascen(phl, pi+1, high);

}

}

void quick\_descen(pahala phl[], int low, int high){

if (low < high){

int pi = partition\_descen(phl, low, high);

quick\_descen(phl, low, pi-1);

quick\_descen(phl, pi+1, high);

}

}

//FUNGSI MELIHAT DATA

void read(){

cout<<"\n";

cout<<"DATA DONATUR\n";

cout<<"\n";

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

cout<<"Nomor Donatur "<<phl[indeks].nomor<<endl;

cout<<"Nama : "<<phl[indeks].nama<<endl;

cout<<"Jumlah Sedekah : Rp. "<<phl[indeks].sedekah<<endl;

cout<<"\n";

}

cout<<"TEKAN ENTER UNTUK KEMBALI KE MENU AWAL";

cout<<"\n";

getch();

system("cls");

}

//DRIVER SORTING

void sort\_menu(){

system("cls");

int pilih, tipe;

if (size==0){

cout << "DATA KOSONG !!! ";

getch();

system("cls");

}

else if (size>0){

cout<<"================== MENU SORT ==================\n"

<<"============== URUTKAN BERDASAR ==============\n"

<<"\n"

<<"1. Nomor Donatur\n"

<<"2. Nama Donatur\n"

<<"3. Jumlah Sedekah\n"

<<"\n"

<<"Masukkan pilihan: ";

cin>>pilih;

if (pilih==1){

cout<<"================== MENU SORT ==================\n"

<<"=============== TIPE PENGURUTAN ===============\n"

<<"\n"

<<"1. Ascending\n"

<<"2. Descending"

<<"\n"

<<"Pilih : ";

cin>>tipe;

switch (tipe){

case 1:

quick\_ascen(phl, 0, size-1 );

read();

break;

case 2:

quick\_descen(phl, 0, size-1 );

read();

break;

}

}

else if (pilih==2){

bubble(phl, size);

read();

}

else if (pilih==3){

selection(phl, size);

read();

}

else{

cout << "Pilihan tidak ada\n"; getch();

}

}

}

//FUNGSI UNTUK MENGUBAH DATA

void update(){

cout<<"DATA DONATUR\n";

cout<<"\n";

int nomor;

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

nomor = indeks + 1;

cout<<"Nomor Donatur "<<nomor<<endl;

cout<<"Nama : "<<phl[indeks].nama<<endl;

cout<<"Jumlah Sedekah : Rp. "<<phl[indeks].sedekah<<endl;

cout<<"\n";

}

int ubah;

int indeks;

cout<<"Masukkan Nomor Donatur yang ingin diubah : ";

cin>>ubah;

indeks = ubah - 1;

cout<<"Nama : ";

cin>>phl[indeks].nama;

cout<<"Jumlah Sedekah : Rp. ";

cin>>phl[indeks].sedekah;

cout<<"\n";

cout<<"Data Berhasil Diubah !!!"<<endl;

cout<<"\n";

cout<<"TEKAN ENTER UNTUK KEMBALI KE MENU AWAL";

getch();

system("cls");

}

//FUNGSI MENGHAPUS DATA

void deletee(){

cout<<"DATA DONATUR\n";

cout<<"\n";

int nomor;

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

nomor = indeks + 1;

cout<<"Nomor Donatur "<<nomor<<endl;

cout<<"Nama : "<<phl[indeks].nama<<endl;

cout<<"Jumlah Sedekah : Rp. "<<phl[indeks].sedekah<<endl;

cout<<"\n";

}

int hapus, indeks;

cout<<"Nomor Donatur yang ingin dihapus : ";

cin>>hapus;

indeks = hapus - 1;

size--;

for(int z=indeks; z<size; z++){

phl[z].nama = phl[z+1].nama;

phl[z].sedekah = phl[z+1].sedekah;

}

cout<<"DATA TELAH TERHAPUS\n";

cout<<"\n";

cout<<"TEKAN ENTER UNTUK KEMBALI KE MENU AWAL";

getch();

system("cls");

}

//FUNGSI MAIN

int main(){

int pilih;

start:

cout<<"\n";

cout<<"================== MENU UTAMA ==================\n"

<<"==== PENDATAAN SEDEKAH WILAYAH POCHINKI ULU ====\n"

<<"\n"

<<"1. Masukkan Data Donatur\n"

<<"2. Lihat Data Donatur\n"

<<"3. Ubah Data Donatur\n"

<<"4. Hapus Data Donatur\n"

<<"5. Keluar\n"

<<"\n"

<<"Masukkan Pilihan : ";

cin>>pilih;

cout<<"\n";

if(pilih == 1){

create();

goto start;

}

if(pilih == 2){

sort\_menu();

goto start;

}

if(pilih == 3){

update();

goto start;

}

if(pilih == 4){

deletee();

goto start;

}

if(pilih == 5){

cout<<"TERIMA KASIH";

}

else{

cout<<"PILIH SESUAI MENU !!!\n";

goto start;

}

}





