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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 sizee;

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;

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

cin>>banyakdonate;

cout<<"\n";

banyakdata = 0;

for(int x=0; x<banyakdonate; x++){

banyakdata = sizee + 1;

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

phl[sizee].nomor = banyakdata;

cout<<"Nama : ";

cin>>phl[sizee].nama;

cout<<"Jumlah Sedekah : Rp.";

cin>>phl[sizee].sedekah;

cout<<"\n";

sizee++;

}

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<sizee ; 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 (sizee==0){

cout << "DATA KOSONG !!! ";

getch();

system("cls");

}

else if (sizee>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, sizee-1 );

read();

break;

case 2:

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

read();

break;

}

}

else if (pilih==2){

bubble(phl, sizee);

read();

}

else if (pilih==3){

selection(phl, sizee);

read();

}

else{

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

}

}

}

//FUNGSI SEARCH NAMA (BINARY SEARCH)

int binary\_search(int pilih)

{

cout<<endl;

string num;

int beg = 0;

int end=sizee-1;

int index= -1;

cout<<"Nama yang dicari : ";

cin>>num;

switch (pilih){

case 1:

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

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

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

pahala swap = phl[y];

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

phl[y+1] = swap;

}

}

}

while(beg<=end){

int mid=(end+beg)/2;

if(phl[mid].nama==num){

index = mid +1;

for (int x=0; x<sizee; x++){

if(phl[mid].nama==phl[x].nama){

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

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

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

cout<<"\n";

}

getch();

}

break;

}

else{

if(num>phl[mid].nama){

beg= mid+1;

}

else{

end=mid-1;

}

}

}

break;

}

if(index==-1){

cout << "\nData tidak ditemukan"; getch();

}

system("cls");

return 0;

}

//FUNGSI SEARCH JUMLAH SEDEKAH (INTERPOLATION SEARCH)

int inter\_search(int pilih)

{

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

int awal = 0, posisi;

int proses = 0;

int akhir = sizee - 1;

int key;

cout<<"Masukkan Jumlah sedekah yang ingin dicari : ";

cin>>key;

switch (pilih){

case 2:

while (true){

proses++;

posisi = (awal + ((key - phl[awal].sedekah) \* (akhir - awal)) / (phl[akhir].sedekah + phl[awal].sedekah));

if(phl[posisi].sedekah == key){

for (int x=0; x<sizee; x++){

if (phl[posisi].sedekah==phl[x].sedekah){

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

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

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

cout<<"\n";

}

getch();

}

break;

}

if((phl[posisi].sedekah < key) && (phl[posisi].sedekah >= phl[posisi].sedekah)){

awal = posisi + 1;

continue;

}

if((phl[posisi].sedekah > key) && (phl[posisi].sedekah <= phl[posisi].sedekah)){

akhir = posisi - 1;

continue;

}

else{

cout<<"Nilai yang anda cari tidak ada"<<endl;

break;

}

}

break;

}

system("cls");

return 0;

}

//FUNGSI DRIVER SEARCH

void search(){

system("cls");

int pilih;

cout<<"================= MENU SEARCH =================\n"

<<"================ CARI BERDASAR ================\n"

<<"\n"

<<"1. Nama Donatur\n"

<<"2. Jumlah Sedekah\n"

<<"\n"

<<"Masukkan pilihan: ";

cin>>pilih;

switch (pilih)

{

case 1:

binary\_search(1);

break;

case 2:

inter\_search(2);

break;

default:

cout<<"Inputan salah"; getch();

}

}

//FUNGSI UNTUK MENGUBAH DATA

void update(){

cout<<"DATA DONATUR\n";

cout<<"\n";

int nomor;

for(int indeks=0; indeks<sizee ; 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<sizee ; 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;

sizee--;

for(int z=indeks; z<sizee; 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. Cari Data Donatur\n"

<<"4. Ubah Data Donatur\n"

<<"5. Hapus Data Donatur\n"

<<"6. 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){

search();

goto start;

}

if(pilih == 4){

update();

goto start;

}

if(pilih == 5){

deletee();

goto start;

}

if(pilih == 6){

cout<<"TERIMA KASIH";

}

else{

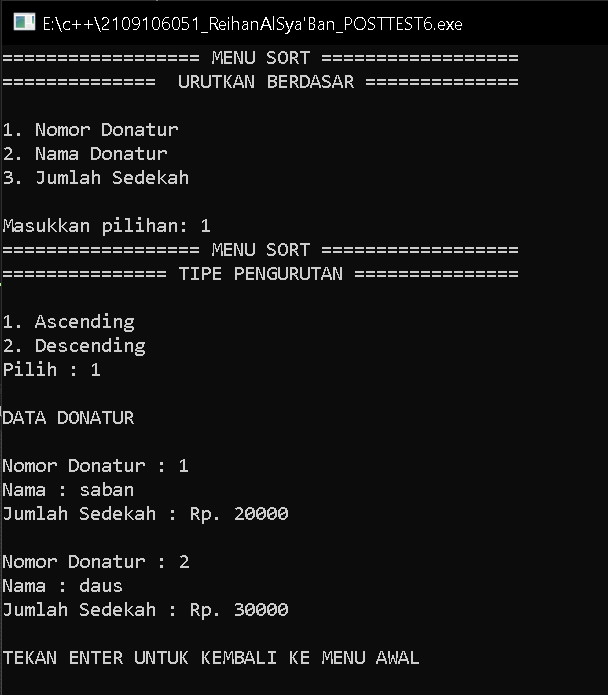
cout<<"PILIH SESUAI MENU !!!\n";

goto start;

}

}

**Screenshot Lihat data**



**Screenshot Cari data**



