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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++){
```

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        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(ph1, 0, size-1 );
            read();
            break;
        case 2:
            quick_descen(ph1, 0, size-1 );
            read();
            break;
    }
}
else if (pilih==2){
    bubble(ph1, 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;
    }
}

```

```

===== MENU UTAMA =====
==== PENDATAAN SEDEKAH WILAYAH POCHINKI ULU ====

1. Masukkan Data Donatur
2. Lihat Data Donatur
3. Ubah Data Donatur
4. Hapus Data Donatur
5. Keluar

Masukkan Pilihan : 2

```

```
===== MENU SORT =====  
===== URUTKAN BERDASAR =====
```

1. Nomor Donatur
2. Nama Donatur
3. Jumlah Sedekah

Masukkan pilihan: 1

```
===== MENU SORT =====  
===== TIPE PENGURUTAN =====
```

1. Ascending
2. Descending

Pilih : 2

DATA DONATUR

Nomor Donatur 2

Nama : ucok

Jumlah Sedekah : Rp. 50000

Nomor Donatur 1

Nama : saban

Jumlah Sedekah : Rp. 12000

TEKAN ENTER UNTUK KEMBALI KE MENU AWAL

```
===== MENU SORT =====  
===== URUTKAN BERDASAR =====
```

1. Nomor Donatur
2. Nama Donatur
3. Jumlah Sedekah

Masukkan pilihan: 2

```
===== MENU SORT =====  
===== TIPE PENGURUTAN =====
```

1. Ascending
2. Descending

Pilih : 1

DATA DONATUR

Nomor Donatur 1

Nama : saban

Jumlah Sedekah : Rp. 12000

Nomor Donatur 2

Nama : ucok

Jumlah Sedekah : Rp. 50000

TEKAN ENTER UNTUK KEMBALI KE MENU AWAL

```
===== MENU SORT =====  
===== URUTKAN BERDASAR =====
```

1. Nomor Donatur
2. Nama Donatur
3. Jumlah Sedekah

Masukkan pilihan: 3

```
===== MENU SORT =====  
===== TIPE PENGURUTAN =====
```

1. Ascending
2. Descending

Pilih : 2

DATA DONATUR

Nomor Donatur 2

Nama : ucok

Jumlah Sedekah : Rp. 50000

Nomor Donatur 1

Nama : saban

Jumlah Sedekah : Rp. 12000

TEKAN ENTER UNTUK KEMBALI KE MENU AWAL