Nama : Nicholas Valenthinus Tanoto

NIM :2401960624

Jurusan : Game Application and Technology

Source Code phonebookvt.cpp :

#include <stdio.h>

#include <windows.h>

#include <ctype.h>

#include <stdlib.h>

#include <string.h>

struct data

{

char nama[100];

char nomor[100];

};

// data

data x[100];

void title()

{

puts("Phone Book Program");

puts("1. Add a new record");

puts("2. Search for a name");

puts("3. Modify a phone number");

puts("4. Delete a record");

puts("5. Exit the program");

puts("Created by : Nicholas Valenthinus Tanoto - 2401960624 - Game Application and Technology");

printf(">>");

}

// bool Validation

bool isalphabet(char namabackup[])

{

for(int i=0;i<strlen(namabackup);i++)

{

if( ('a' <=namabackup[i] && namabackup[i] <= 'z') || ('A' <= namabackup[i] && namabackup[i] <= 'Z') )

{

if(strlen(namabackup) > 5 && strlen(namabackup) <40)

{

return true;

}

}

}

return false;

}

bool isnum(char nomorbackup[])

{

for(int i=0;i<strlen(nomorbackup);i++)

{

if( '0' <= nomorbackup[i] && nomorbackup[i] <= '9' )

{

if(strlen(nomorbackup) == 12)

{

return true;

}

}

}

return false;

}

bool isexistalpha(char existnama[])

{

// menghitung banyak data

int countexist = 0;

char c;

FILE\* fp;

fp = fopen("data.txt","r");

while((c=getc(fp)) != EOF)

{

if(c == '\n') ++countexist;

}

fclose(fp);

for(int i=0;i<countexist;i++)

{

if(strcmp(existnama,x[i].nama) == 0)

{

printf("The name is already exist!\n");

system("pause");

return true;

break;

}

}

return false;

}

bool isexistnum(char existnum[])

{

// menghitung banyak data

int countexist = 0;

char c;

FILE\* fp;

fp = fopen("data.txt","r");

while((c=getc(fp)) != EOF)

{

if(c == '\n') ++countexist;

}

fclose(fp);

for(int i=0;i<countexist;i++)

{

if(strcmp(existnum,x[i].nomor) == 0)

{

printf("The phonenumber is already exist!\n");

system("pause");

return true;

break;

}

}

return false;

}

bool isExistalphaformodify(char existalpha[])

{

// menghitung banyak data

int countexist = 0;

char c;

FILE\* fp;

fp = fopen("data.txt","r");

while((c=getc(fp)) != EOF)

{

if(c == '\n') ++countexist;

}

fclose(fp);

for(int i=0;i<countexist;i++)

{

if(strcmp(existalpha,x[i].nama) == 0)

{

return true;

break;

}

}

return false;

}

// menu function

int count =0;

void addrecord();

void searchname();

void modifynumber();

void deleterecord();

int main()

{

int input;

do

{

title();

scanf("%d",&input);

getchar();

system("cls");

}while(input < 1 || input > 5);

switch(input)

{

case 1:

addrecord();

break;

case 2:

searchname();

break;

case 3:

modifynumber();

break;

case 4:

deleterecord();

break;

case 5:

printf("Thank you for using this program!\n");

// untuk reset data jadi kosong begitu udah mau exit

/\*remove("data.txt");

remove("copy.txt"); \*/

exit(0);

break;

}

return 0;

}

void addrecord()

{

FILE\* fp;

// backup

char namabackup[100];

char nomorbackup[100];

// penampung

bool isalphafix =false;

bool isnumfix = false;

bool isexistalphafix = false;

bool isexistnumfix = false;

do{

system("cls");

printf("Input your friend name [alphabet only][5 - 40] : ");

scanf("%[^\n]",namabackup);

getchar();

isalphafix = isalphabet(namabackup);

isexistalphafix = isexistalpha(namabackup);

// printf("isexistalpha = %d\n",isexistalphafix);

// printf("isalpha =%d\n",isalphafix);

}while(isalphafix == false || isexistalphafix == true);

//debug checking nama yang distrcpy sesuai

//printf("%s",x[count].nama);

do{

system("cls");

printf("Input phone number [numeric only][12 digits] : ");

scanf("%s",nomorbackup);

getchar();

isnumfix = isnum(nomorbackup);

isexistnumfix = isexistnum(nomorbackup);

// printf("isexistnum = %d\n",isexistnumfix);

// printf("isnum = %d\n",isnumfix);

}while(isnumfix == false || isexistnumfix == true);

strcpy(x[count].nama,namabackup);

strcpy(x[count].nomor,nomorbackup);

fp =fopen("data.txt","a");

fprintf(fp,"%s#%s\n",x[count].nama,x[count].nomor);

fclose(fp);

printf("Name : %s and Phonenumber : %s has been succesfully inputted\n",namabackup,nomorbackup);

system("pause");

// data ditambah

count++;

system("cls");

main();

}

void searchname()

{

// ambil index

int idx = -1;

// menghitung banyak data

int counts = 0;

char c;

FILE\* fp;

fp = fopen("data.txt","r");

while((c=getc(fp)) != EOF)

{

if(c == '\n') ++counts;

}

fclose(fp);

// check jumlah data sesuai apa ndak

//printf("%d",counts);

char searchnama[100];

//char searchnomor[100];

fp=fopen("data.txt","r");

int size;

// melihat dari awal hingga akhir

fseek(fp,0,SEEK\_END);

// memberitahu jumlah char dari awal sampai akhir

size =ftell(fp);

fclose(fp);

// validasi data ada apa ngga pada file

if(size == 0 || fp == NULL)

{

printf("There is No data in File\n");

system("pause");

system("cls");

main();

}

else

{

fp=fopen("data.txt","r");

printf("List All Friends Name and Phonenumber\n");

printf("=========================================\n");

for(int i=0;i<counts;i++)

{

fscanf(fp,"%[^#]#%s\n",x[i].nama,x[i].nomor);

printf("%d.Name : %s\nPhonenumber : %s\n",i+1,x[i].nama,x[i].nomor);

}

fclose(fp);

printf("input name that you want to search : ");

scanf("%[^\n]",searchnama);

/\*

fp=fopen("data.txt","r");

for(int i=0;i<counts;i++)

{

fscanf(fp,"%s %s",x[i].nama,x[i].nomor);

printf("Name : %s\n Number : %s\n",x[i].nama,x[i].nomor);

}

\*/

for(int i=0;i<counts;i++)

{

if(strcmp(searchnama,x[i].nama) == 0)

{

idx = i;

break;

}

}

fclose(fp);

if(idx != -1) printf("Found name : %s with Phonenumber : %s\n",x[idx].nama,x[idx].nomor);

else printf("No Similar name found!\n");

system("pause");

system("cls");

main();

}

}

void modifynumber()

{

// menghitung banyak data

int countsmodify = 0;

int idx = -1;

char c;

FILE\* fp;

fp = fopen("data.txt","r");

while((c=getc(fp)) != EOF)

{

if(c == '\n') ++countsmodify;

}

fclose(fp);

char modifynama[100];

char modifynomor[100];

fp=fopen("data.txt","r");

int size;

// melihat dari awal hingga akhir

fseek(fp,0,SEEK\_END);

// memberitahu jumlah char dari awal sampai akhir

size =ftell(fp);

fclose(fp);

// validasi data ada apa ngga pada file

if(size == 0 || fp == NULL)

{

printf("There is No data in File\n");

system("pause");

system("cls");

main();

}

else

{

do{

system("cls");

fp=fopen("data.txt","r");

printf("List All Friends Name and Phonenumber\n");

printf("=========================================\n");

for(int i=0;i<countsmodify;i++)

{

fscanf(fp,"%[^#]#%s\n",x[i].nama,x[i].nomor);

printf("%d.Name : %s\nNumber : %s\n",i+1,x[i].nama,x[i].nomor);

}

fclose(fp);

printf("input name that you want to modify the phonenumber : ");

scanf("%[^\n]",modifynama);

getchar();

}while(isalphabet(modifynama) == false || isExistalphaformodify(modifynama) == false);

if(countsmodify == 1)

{

if(strcmp(modifynama,x[0].nama) == 0)

{

idx = 0;

}

if(idx == 0)

{

int len;

do{

printf("input phonenumber to modify it [12 digits] : ");

scanf("%s",modifynomor);

len = strlen(modifynomor);

getchar();

}while(len != 12);

if(strcmp(x[idx].nomor,modifynomor) != 0)

{

fp = fopen("data.txt","w");

strcpy(x[idx].nomor,modifynomor);

printf("Sucessfully modify the phonenumber!\n");

system("pause");

fprintf(fp,"%s#%s\n",x[0].nama,modifynomor);

fclose(fp);

}

else

{

printf("The Phonenumber is already exist!\n");

system("pause");

system("cls");

main();

}

}

else printf("No Similar name found!\n");

system("cls");

main();

}

// countmodify lebih dari 1 data

else

{

for(int i=0;i<countsmodify;i++)

{

if(strcmp(modifynama,x[i].nama) == 0)

{

idx = i;

break;

}

}

if(idx >= -1)

{

int len;

do{

printf("input phonenumber to modify it [12 digits] : ");

scanf("%s",modifynomor);

len = strlen(modifynomor);

getchar();

}while(len != 12);

fp = fopen("data.txt","w");

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

if(strcmp(x[idx].nomor,modifynomor) != 0)

{

strcpy(x[idx].nomor,modifynomor);

printf("Sucessfully modify the phonenumber!\n");

break;

system("pause");

}

else

{

printf("The Phonenumber is already exist!\n");

break;

}

}

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

fprintf(fp,"%s#%s\n",x[i].nama,x[i].nomor);

}

fclose(fp);

}

else printf("No Similar name found!\n");

system("pause");

system("cls");

main();

}

}

}

void deleterecord()

{

// menghitung banyak data

int countdelete = 0;

char c;

FILE\* fp;

fp = fopen("data.txt","r");

while((c=getc(fp)) != EOF)

{

if(c == '\n') ++countdelete;

}

fclose(fp);

// check jumlah data sesuai apa ndak

//printf("%d",countsdelete);

fp=fopen("data.txt","r");

int size;

// melihat dari awal hingga akhir

fseek(fp,0,SEEK\_END);

// memberitahu jumlah char dari awal sampai akhir

size =ftell(fp);

fclose(fp);

// validasi data ada apa ngga pada file

if(size == 0 || fp == NULL)

{

printf("There is No data in File\n");

system("pause");

system("cls");

main();

}

else

{

// file ke 2 untuk diganti jadi file utama

char\* text = "data.txt";

fp=fopen("data.txt","r");

int i;

for(i=0;i<countdelete;i++)

{

fscanf(fp,"%[^#]#%s\n",x[i].nama,x[i].nomor);

}

x[i] = x[-99];

countdelete--;

fclose(fp);

fp = fopen("copy.txt","w");

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

fprintf(fp,"%s#%s\n",x[i].nama,x[i].nomor);

}

fclose(fp);

remove(text);

rename("copy.txt",text);

printf("Deleted one Record Sucessfully!\n");

system("pause");

system("cls");

main();

}

}