Assignment 14

//Complex (real, imaginary)

#include<stdio.h>

struct complex{

int real;

int img;

};

void main(){

struct complex c;

c.real=10;

c.img=45;

printf("%d+%di",c.real,c.real);

//array

struct complex c1[10];

//

int n;

printf("Enter n:");

scanf("%d",&n);

printf("Enter the values:\n\n");

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

printf("real:");

scanf("%d",&c1[i].real);

printf("img:");

scanf("%d",&c1[i].img);

printf("\n\n");

}

printf("complex numbers:\n\n");

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

printf("%d+%di\n\n",c1[i].real,c1[i].img);

}

}

//

//3. Write a program to create an array for 10 players. For each player store name, no. of

//matches played, runs, wickets takes.

//a. Create function to Accept the information of each player.

//b. Create function to display the information of all the players

//c. Display the information of player who made maximum runs and the one who took

//maximum number of wickets.

#include<stdio.h>

typedef struct player {

char name[20];

int no\_of\_m;

int runs;

int wickets;

}player;

void store(player\*,int);

void display(player\*,int);

void max\_run(player\*,int);

void max\_wicket(player\*,int);

void main(){

player p[10];

int n;

printf("enter the n:");

scanf("%d",&n);

store(p,n);

display(p,n);

max\_run(p,n);

max\_wicket(p,n);

}

void store(player\* p,int n){

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

printf("Enter the details\n");

fflush(stdin);

printf("Name:");

gets(p[i].name);

printf("No\_of\_matches:");

scanf("%d",&p[i].no\_of\_m);

printf("Runs:");

scanf("%d",&p[i].runs);

printf("Wickets:");

scanf("%d",&p[i].wickets);

printf("\n\n");

}

}

void display(player\* p,int n){

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

printf("playes Details:\n\n");

printf("name:%s\n",p[i].name);

//puts(p[i].name);

printf("No\_of\_matches:%d\n",p[i].no\_of\_m);

printf("no\_of\_runs:%d\n",p[i].runs);

printf("NO\_of\_wickets:%d\n",p[i].wickets);

printf("\n\n");

}

}

void max\_run(player\* p,int n){

int max=p[0].runs;

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

if(p[i].runs>max){

max=p[i].runs;

}

}

printf("\n\n");

printf("Max runs:%d",max);

}

void max\_wicket(player\* p,int n){

int max=p[0].wickets;

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

if(p[i].wickets>max){

max=p[i].wickets;

}

}

printf("\n\n");

printf("Max\_wickets:%d",max);

}

//4. Point of Sale System: Build a simple point of sale system using structures to

//represent products with attributes like name, price, and quantity. Allow users

//to add items to a cart and calculate the total cost.

#include<stdio.h>

#include<string.h>

typedef struct product{

char name[20];

double price;

int quantity;

}product;

int cnt\_cart=0;

void display(product\*,int);

void display\_cart(product\*,int);

void add\_cart(product\*,int,product\*,int);

void main(){

product p[5];

product cart[5];

int size=5;

//fill the array of product

strcpy(p[0].name,"shampoo");

p[0].price=45.3;

p[0].quantity=5;

strcpy(p[1].name,"biscuit");

p[1].price=50.3;

p[1].quantity=6;

strcpy(p[2].name,"soap");

p[2].price=50.3;

p[2].quantity=6;

strcpy(p[3].name,"book");

p[3].price=75.5;

p[3].quantity=10;

strcpy(p[4].name,"notebook");

p[4].price=75.5;

p[4].quantity=10;

int choice;

do{

char nam[20];

printf("\n-----------Welcome to the sales system------------------\n\n");

printf("\n0.Exit\n1.Display Product\n2.Add Product\n");

printf("Enter the choice:");

scanf("%d",&choice);

switch(choice){

case 0:

{

printf("\nThank you for visit!!\n");

break;

}

case 1:

{

display(p,size);

break;

}

case 2:

{

printf("Enter name:");

scanf("%s",nam);

int flag=0;

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

int cmp=strcmp(p[i].name,nam);

if(cmp==0){

//ask for the quantity if not enough then display insufficient

int qnt;//that much quantity must reduce from total qnt

printf("Enter the Quantity:\n");

scanf("%d",&qnt);

if(qnt<=p[i].quantity){

add\_cart(cart,i,p,qnt);

flag=1;

}

else{

printf("Insufficient Quantity!!");

}

}

}

if(flag==0)

printf("product not found!!");

display\_cart(cart,size);

break;

}

default:

{

printf("Invalid Case!!");

}

}//switch

}while(choice!=0);

}

void display(product\* p,int size){

printf("\nSales system\n");

printf("+---------------+--------+-----------+\n");

printf("| NAME | Price | Quantity |\n");

printf("+---------------+--------+-----------+\n");

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

printf("|%15s|%-8.2lf|%-11d|\n",p[i].name,p[i].price,p[i].quantity);

printf("+---------------+--------+-----------+\n");

}

}

void add\_cart(product\* cart,int i,product\* pro,int qnt){

//copy that entire element and then reduce quantity as per count

//here we dont want to copy as it is ,we want modify some values

strcpy(cart[cnt\_cart].name,pro[i].name);

cart[cnt\_cart].quantity=qnt;//as per quantity decide the price

cart[cnt\_cart].price=qnt\* pro[i].price;//modify the price

pro[i].quantity=pro[i].quantity-qnt;//reduce that much quantity from total quantity

cnt\_cart++;//maintain the size of cart array

}

void display\_cart(product\* c,int size){

double total;

printf("\n--------------YOUR CART--------------\n");

printf("+---------------+--------+-----------+\n");

printf("| NAME | Price | Quantity |\n");

printf("+---------------+--------+-----------+\n");

for(int i=0;i<cnt\_cart;i++){

printf("|%15s|%-8.2lf|%-11d|\n",c[i].name,c[i].price,c[i].quantity);

printf("+---------------+--------+-----------+\n");

}

for(int i=0;i<cnt\_cart;i++){

total=total+c[i].price;

}

printf("| total price --> RS. %-8.2lf\n\n",total);

printf("Please pay the total amount to buy the product!!\n");

}

//5. Movie Database: Create a program that uses structures to manage a movie

//database with details like title, director, release year, and genre. Allow users

//to add, search for, and update movie records

#include<stdio.h>

#include<string.h>

typedef struct movie{

char title[50];

char director[50];

int release\_year;

char genre[50];

}movie;

void display\_movie(int,movie\*);

void display\_all(movie\*,int);

void main(){

movie miv[20];

int n=0;

int choice;

do{

printf("0.Exit\n1.add\n2.search\n3.update\_records\n4.display\n");

printf("Enter choice:");

scanf("%d",&choice);

switch(choice){

case 0:{

printf("Thanks for visit!!");

break;

}

case 1:

{

int num;

printf("Enter the number of movies wants to enters:");

scanf("%d",&num);

for(int i=n;i<(n+num);i++){

printf("Enter the movie details:\n");

fflush(stdin);

char tit[50];

printf("Enter the title:");

gets(tit);

strcpy(miv[i].title,tit);

fflush(stdin);

char dir[50];

printf("Enter the director:");

gets(dir);

strcpy(miv[i].director,dir);

int rel\_y;

printf("Enter the release year:");

scanf("%d",&rel\_y);

miv[i].release\_year=rel\_y;

fflush(stdin);

char grn[50];

printf("Enter the genre:");

gets(grn);

strcpy(miv[i].genre,grn);

printf("\n");

}

//update n==>

n=n+num;

break;

}

case 2:

{

//search

fflush(stdin);

printf("Enter the title to search:");

char tit\_m[50];

gets(tit\_m);

int flag=0;

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

int c=strcmp(miv[i].title,tit\_m);

if(c==0){

flag=1;

// //display

// printf("Title:%s\n",miv[i].title);

// printf("Director:%s\n",miv[i].director);

// printf("Release Year :%d\n",miv[i].release\_year);

// printf("Genre:%s\n",miv[i].genre);

display\_movie(i,miv);

break;//as got stop search

}

}//out of for loop

if(flag==0){

printf("Moive not found!!");

}

break;

}

case 3:{

//update

fflush(stdin);

char t[50];

int flag=0;

printf("Enter the movie title wants to change:");

gets(t);

int i;

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

if(strcmp(miv[i].title,t)==0){

flag=1;

printf("1.title\n2.director\n3.Release Year\n4.genre\n");

int c;

scanf("%d",&c);

switch(c){

case 1:

{ fflush(stdin);

char title[50];

printf("Enter the new title:");

gets(title);

strcpy(miv[i].title,title);

display\_movie(i,miv);

break;

}

case 2:{

fflush(stdin);

char direct[50];

printf("Enter the new director:");

gets(direct);

strcpy(miv[i].director,direct);

display\_movie(i,miv);

break;

}

case 3:{

int r\_year;

printf("Enter the new year:");

scanf("%d",&r\_year);

miv[i].release\_year=r\_year;

display\_movie(i,miv);

break;

}

case 4:{

fflush(stdin);

char g[50];

printf("Enter the new genre:");

gets(g);

strcpy(miv[i].genre,g);

display\_movie(i,miv);

break;

}

default:

{

printf("Invalid Input!!");

break;

}

}

//break the for loop

break;

}//if in for

}//end for

//display updated movie

if(flag==0){

printf("Movie not found!!");

}

break;

}

case 4:{

display\_all(miv,n);

break;

}

default:{

printf("Invalid choice!!");

break;

}

}

}while(choice!=0);

}

void display\_movie(int i,movie\*miv){

printf("Title:%s\n",miv[i].title);

printf("Director:%s\n",miv[i].director);

printf("Release Year :%d\n",miv[i].release\_year);

printf("Genre:%s\n",miv[i].genre);

}

void display\_all(movie\* miv,int n){

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

printf("Title:%s\n",miv[i].title);

printf("Director:%s\n",miv[i].director);

printf("Release Year :%d\n",miv[i].release\_year);

printf("Genre:%s\n",miv[i].genre);

printf("\n");

}

}

//2. Create a structure Time with data members as hrs, min, sec. Accept the values of all

//these members from user and display them. Also perform addition of two time variables

//and display the result. If sec goes beyond 60, carry it to min etc. Add a method to convert

//the given time into sec.

#include<stdio.h>

typedef struct time{

int hr;

int min;

int sec;

}time;

void display(time);

void display(time);

void main(){

time t1;

time t2;

//t3 for addition

time t3;

store(&t1);

store(&t2);

display(t1);

display(t2);

// t3.hr=t1.hr+t2.hr;

// t3.min=t1.hr+t2.min;

// t3.sec=t1.sec+t2.sec;

//display(t3);

}

void store(time\* t){

printf("Enter the details:\n");

printf("Hr:");

scanf("%d",&t->hr);

printf("Min:");

scanf("%d",&t->min);

printf("Sec:");

scanf("%d",&t->sec);

}

void display(time t){

if(t.sec>59){

int r = t.sec%60;

int q = t.sec/60;//t.sec will modify after

t.sec = r;

t.min=t.min+(q);

// printf("t.sec:%d\n",t.sec);

// printf("t.min:%d\n",t.min);

}

if(t.min>59){

int r=t.min%60;

int q=t.min/60;

t.min=r;

t.hr=t.hr+(q);

// printf("t.min:%d\n",t.min);

// printf("t.hr:%d\n",t.hr);

}

printf("%d:%d:%d\n\n",t.hr,t.min,t.sec);

}