CSPC-101

C PROGRAMMING

PROJECT

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SHOWTIME

#include <stdio.h>

#include <stdlib.h>

#include <time.h>

void print\_seats(int \*\*arr)

{

    printf("   ");

    for (int i=0; i<12; i++)

    {

        printf(" %d ",i);

    }

    printf("\n\n");

    for (int i=0; i<10; i++)

    {

        printf("%c  ",i+65);

        for (int j=0; j<12; j++)

        {

            if (arr[i][j]==0)

            {

                printf("\x1b[32m - \x1b[0m");

            }

            else if(arr[i][j]==1)

            {

                printf("\x1b[31m X \x1b[0m");

            }

            else if(arr[i][j]==2)

            {

                printf("\x1b[33m O \x1b[0m");

            }

        }

        printf("\n");

    }

}

int\*\* fill\_seats()

{

    int \*\*seats = malloc(sizeof(int\*) \* 10);

    for(int i = 0; i < 10; i++)

    {

        seats[i] = malloc(sizeof(int\*) \* 12);

    }

    for (int i=0; i<10; i++)

    {

        for (int j=0; j<12; j++)

        {

            seats[i][j]=rand()%2;

        }

    }

    return seats;

}

void print\_bill(char\* movie, char\* cinema, char\* time, float price, int tickets, char\*\* seats)

{

    FILE \*fp;

    fp = fopen("/tmp/yourTicket.txt", "w+");

    fprintf(fp,"\n\n\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n");

    (tickets==1)?fprintf(fp,"\tDEAR CUSTOMER, YOU BOOKED %d TICKET\n\tFOR %s\n",tickets,movie):fprintf(fp,"\tDEAR CUSTOMER, YOU BOOKED %d TICKETS\n\tFOR %s\n",tickets,movie);

    fprintf(fp,"\tTHE SHOW IS BOOKED AT %s ",cinema);

    fprintf(fp,"AT %s\n",time);

    (tickets==1)? fprintf(fp,"\t%d TICKET OF %.2f IS BOOKED\n",tickets,price): fprintf(fp,"\t%d TICKETS OF %.2f ARE BOOKED\n",tickets,price);

    fprintf(fp,"\tTOTAL AMOUNT TO BE PAID IS: %.2f\n",tickets\*price);

    (tickets==1)?fprintf(fp,"\tYOUR SEAT IS :\n"):fprintf(fp,"\tYOUR SEATS ARE :\n");

    for (int i=0; i<tickets; i++)

    {

        (i==tickets-1)? fprintf(fp,"\t%s ",seats[i]): fprintf(fp,"\t%s, ",seats[i]);

    }

    fprintf(fp,"\n\n\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n\n");

    fclose(fp);

    printf("YOUR TICKET HAS BEEN SAVED IN C:/cygwin64/tmp/yourTicket.txt");

}

int take\_input(int min, int max)

{

    int n;

    scanf("%d",&n);

    while(n<min || n>max){

        printf("Invalid response. Please enter between %d and %d\n",min,max);

        scanf("%d",&n);

    }

    return n;

}

void generate\_bill(char\* movie, char\* cinema, char\* time, float price, int tickets, char\*\* seats)

{

    printf("\n\n\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n");

    (tickets==1)?printf("\tDEAR CUSTOMER, YOU BOOKED %d TICKET\n\tFOR %s\n",tickets,movie):printf("\tDEAR CUSTOMER, YOU BOOKED %d TICKETS\n\tFOR %s\n",tickets,movie);

    printf("\tTHE SHOW IS BOOKED AT %s ",cinema);

    printf("AT %s\n",time);

    (tickets==1)? printf("\t%d TICKET OF %.2f IS BOOKED\n",tickets,price): printf("\t%d TICKETS OF %.2f ARE BOOKED\n",tickets,price);

    printf("\tTOTAL AMOUNT TO BE PAID IS: %.2f\n",tickets\*price);

    (tickets==1)?printf("\tYOUR SEAT IS :\n"):printf("\tYOUR SEATS ARE :\n");

    for (int i=0; i<tickets; i++)

    {

        (i==tickets-1)? printf("\t%s ",seats[i]): printf("\t%s, ",seats[i]);

    }

    printf("\n\n\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n\n");

}

int main()

{

    char movies[5][50]= {"Bhool Bhulaiyaa 2","Laal Singh Chaddha","Thor","Sher Bagga","Prithviraj"};

    printf("CHOOSE MOVIE\n");

    for(int i=0; i<5; i++)

    {

        printf("ENTER %d - %s\n",i,movies[i]);

    }

    int movie\_choice=take\_input(0,sizeof(movies)/sizeof(movies[0])-1);

    char cinemas[4][50]= {"PVR","IMAX","INOX","CARNIVAL"};

    printf("CHOOSE CINEMA\n");

    for(int i=0; i<4; i++)

    {

        printf("ENTER %d - %s\n",i,cinemas[i]);

    }

    int cinema\_choice=take\_input(0,sizeof(cinemas)/sizeof(cinemas[0])-1);

    char times[6][50]= {"10:00 AM","12:00 PM","02:00 PM","04:30 PM","08:00 PM","10:00 PM"};

    printf("CHOOSE TIME\n");

    for(int i=0; i<6; i++)

    {

        printf("ENTER %d - %s\n",i,times[i]);

    }

    int time\_choice=take\_input(0,sizeof(times)/sizeof(times[0])-1);

    float prices[3]= {220, 300, 450};

    printf("CHOOSE PRICE\n");

    for(int i=0; i<3; i++)

    {

        printf("%d - %.2f\n",i,prices[i]);

    }

    int price\_choice=take\_input(0,sizeof(prices)/sizeof(prices[0])-1);

    printf("HOW MANY SEATS YOU WANT TO BOOK?\n");

    int n;

    scanf("%d",&n);

    time\_t t;

    srand((unsigned)time(&t));

    int \*\*p\_arr=fill\_seats();

    print\_seats(p\_arr);

    char \*\*selected\_seats = malloc(sizeof(char\*) \* n);

    for(int i=0; i<n; i++)

    {

        seat\_selection:

        printf("Enter seat\n");

        char row;

        int col;

        scanf(" %c%d",&row,&col);

        while(row<65 || row>75 || col<0 || col > 12)

        {

            printf("Enter valid seat number\n");

            goto seat\_selection;

        }

        while(p\_arr[row-65][col]==1)

        {

            printf("Seat already occupied. Try again\n");

            goto seat\_selection;

        }

        p\_arr[row-65][col]=2;

        char\* selected\_seat = malloc(sizeof(char\*) \* 2);

        selected\_seat[0]=row;

        selected\_seat[1]=col+48;

        selected\_seats[i]=selected\_seat;

    }

    print\_seats(p\_arr);

    generate\_bill(movies[movie\_choice],cinemas[cinema\_choice],times[time\_choice],prices[price\_choice],n,selected\_seats);

    printf("DO YOU WANT A COPY OF YOUR TICKET?\nENTER 0 - YES\n");

    int copy;

    scanf("%d",&copy);

    if (copy==0)

    {

        print\_bill(movies[movie\_choice],cinemas[cinema\_choice],times[time\_choice],prices[price\_choice],n,selected\_seats);

    }

    return 0;

}