

# **CSPC-101**

# **C PROGRAMMING**

# **PROJECT**

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# **SHOWTIME**

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#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++)

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{
    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");
}

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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++)

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{
    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");

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    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_choic
e],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_choi
ce],prices[price_choice],n,selected_seats);
}

return 0;
}

```