**Hotel Room Reservation**

This application helps a Hotel to reserve 20 rooms, 10 vacation rooms and 10 business rooms by choosing the reservation option in the menu. In reservation, you can see the available rooms in both vacation and business rooms. The customers have the option to reserve again if they want even after selecting the rooms they want and they also have the option to select their booking packages as well as showing their receipt. In addition, there is an option in the menu to check for the receipts. If you want to exit the program, you can select to exit from the menu.

**Functions:**

1. Menu(); Shows the available options for the user either to reserve, show receipts, or close the program.
2. Reservation(); It shows the available options in reservation, either vacation or business rooms.
3. Rooms\_VT(); It helps in recording the rooms reserved as vacation trips and it shows the available vacation rooms.
4. Rooms\_BT(); It helps in recording the rooms reserved as business trips and it shows the available business rooms.
5. packageV(); takes the user selection for his vacation rooms package.
6. packageB(); takes the user selection for his business rooms package.
7. main(); it is where everything takes place for each customer and it calculates the receipt for each customer.
8. Receiptss(); shows the receipts of all customers.
9. struct customers : stores details about each customer.

**Implemented code:**

#include <stdio.h>

#include <stdlib.h>

#include <ctype.h>

#include <string.h>

#include <unistd.h>

int CHOICEB;

int CHOICEV;

int done = 0;

int taken\_roomyV[10] = {};

int taken\_roomyB[10] = {};

int taken\_flagB;

int taken\_flagV;

int rw; //room wanted

int atV = 0; //already taken Vacation trip

int atB = 0; //already taken Business trip

int taken\_roomV[10] = {0,0,0,0,0,0,0,0,0,0};

int taken\_roomB[10] = {0,0,0,0,0,0,0,0,0,0};

int nc = 0; //names count

int Menu();

int Reservation();

void Rooms\_VT();

void Rooms\_BT();

void receiptss();

void packageB();

void packageV();

struct customers

{

char names[6];

float receiptB;

float receiptV;

int CHOICEB;

int CHOICEV;

int Brooms;

int Vrooms;

float total;

};

struct customers cust[20];

int main()

{

for(;;)

{

done = 0;

for(int y = 1;y != 0;)

{

int trip = 0;

char sure = 'N';

int cho = Menu();

if (cho == 1){

printf("Hello, please enter your name below:\n");

scanf("%s",&cust[nc].names);

system("cls");

printf("Welcome Mr(s). %s,to Kimchi Hotel\n",cust[nc].names);

trip = Reservation();

do{

if (trip == 1)

{

printf("Great choice!\n");

Rooms\_VT();

}else if (trip == 2)

{

printf("Great choice!\n");

Rooms\_BT();

}

system("cls");

printf("Do you want anything else? (1/0):\n");

scanf("%d",&y);

while(y != 0 && y != 1)

{

printf("Wrong choice please enter it again:\n");

scanf("%d",&y);

}

if (y == 1)

trip = Reservation();

}while (y == 1);

if(done == 1)

{

if(cust[nc].Vrooms > 0)

{

packageV();

cust[nc].receiptV = 50 \* cust[nc].Vrooms;

cust[nc].receiptV += cust[nc].CHOICEV;

if(cust[nc].CHOICEV == 30)

printf("You have selected the breakfast only package\n");

else if(cust[nc].CHOICEV == 50)

printf("You have selected the half board package\n");

else if(cust[nc].CHOICEV == 70)

printf("You have selected the all inclusive package\n");

printf("Your payment is $%0.2f per night for %d VACATION rooms\n\n",cust[nc].receiptV,cust[nc].Vrooms);

sleep(2);

}

if(cust[nc].Brooms > 0)

{

packageB();

cust[nc].receiptB = 100 \* cust[nc].Brooms;

cust[nc].receiptB += cust[nc].CHOICEB;

if(cust[nc].CHOICEB == 30)

printf("You have selected the breakfast only package\n");

else if(cust[nc].CHOICEB == 50)

printf("You have selected the half board package\n");

else if(cust[nc].CHOICEB == 70)

printf("You have selected the all inclusive package\n");

printf("Your payment was $%0.2f per night for %d BUSINESS rooms before the 20%% discount\n",cust[nc].receiptB,cust[nc].Brooms);

sleep(1);

cust[nc].receiptB \*= 0.8;

printf("Your payment is now $%0.2f per night for %d BUSINESS rooms after the 20%% discount\n\n",cust[nc].receiptB,cust[nc].Brooms);

sleep(1);

}

cust[nc].total = cust[nc].receiptB + cust[nc].receiptV;

printf("Total is = $%0.2f\n",cust[nc].total);

sleep(3);

system("cls");

nc++;

}

}

else if (cho == 2)

{

if(nc == 0)

{

printf("No receipts yet.\n");

sleep(1);

system("cls");

}

receiptss();

}

else if (cho == 0)

{

printf("Are you sure you want to exit? (Y/N)\n");

scanf(" %c",&sure);

while (toupper(sure) != 'Y' && toupper(sure) != 'N')

{

printf("Wrong input. Please read carefully and insert your choice again.\n");

scanf(" %c",&sure);

}

if(toupper(sure) == 'Y')

return 0;

system("cls");

}

}

}

return 0;

}

int Menu()

{

int choice;

printf("For reservation, press 1\n");

printf("For receipts, press 2\n");

printf("If you want to exit, press 0\n");

scanf(" %d",&choice);

while (choice != 1 && choice != 2 && choice != 0)

{

printf("Wrong input. Please read carefully and insert your choice again.\n");

scanf(" %d",&choice);

}

system("cls");

return choice;

}

int Reservation()

{

int trip;

printf("What are you looking for?\n");

printf("For a vacation trip, press 1\n");

printf("For a business trip (comes with a 20%% discount), press 2\n");

printf("If you want to exit, press 0\n");

scanf("%d",&trip);

while (trip != 1 && trip != 2 && trip != 0)

{

printf("Wrong input. Please read carefully and insert your choice again.\n");

scanf(" %d",&trip);

}

return trip;

}

void Rooms\_VT()

{

int rc; //rooms count

if (atV == 10)

{

printf("But sadly, no rooms are available Mr(s).%s, please come back later.\n",cust[nc].names);

sleep(4);

}

else

{

printf("How many rooms do you wish to book, Mr.%s?\n",cust[nc].names);

scanf("%d",&rc);

while (rc < 1 || rc > 10 || 10 - atV < rc)

{

if (rc < 1 || rc > 10)

printf("Wrong input. Please read carefully and insert your choice again, else press 0 if you want to leave.\n");

if (10 - atV < rc)

printf("Sorry Mr(s). %s, there are only %d room(s) left.\nIf you want another number of room(s) please enter it, else press 0 if you want to leave.\n",cust[nc].names,10 - atV);

scanf("%d",&rc);

if(rc == 0)

return;

}

printf("These are the available room(s):\n");

for(int k = 0; k < 10; k++)

if(taken\_roomV[k] == 0)

printf("%d ",k+1);

printf("Please select your room(s):\n");

for(int k = 0; k < rc; )

{

scanf("%d",&rw);

while (rw < 1 || rw > 10)

{

printf("Wrong room number, please enter a correct number.\n");

scanf("%d",&rw);

}

taken\_flagV = 0;

for(int j = 0; j < 10; j++)

{

if(rw == taken\_roomyV[j])

{

printf("Room already taken\n");

taken\_flagV = 1;

break;

}

}

if (taken\_flagV == 0)

{

printf("Room reserved\n");

done = 1;

taken\_roomyV[atV] = rw;

atV++;

taken\_roomV[rw - 1] = 1;

k++;

}

}

}

cust[nc].Vrooms += rc;

}

void Rooms\_BT()

{

int rc; //rooms count

if (atB == 10)

{

printf("But sadly, no rooms are available Mr(s).%s, please come back later.\n",cust[nc].names);

sleep(4);

}

else

{

printf("How many rooms do you wish to book, Mr(s).%s?\n",cust[nc].names);

scanf("%d",&rc);

while (rc < 1 || rc > 10 || 10 - atB < rc)

{

if (rc < 1 || rc > 10)

printf("Wrong input. Please read carefully and insert your choice again, else press 0 if you want to leave.\n.\n");

if (10 - atB < rc)

printf("Sorry Mr(s). %s, there are only %d room(s) left.\nIf you want another number of room(s) please enter it, else press 0 if you want to leave.\n",cust[nc].names,10 - atB);

scanf("%d",&rc);

if(rc == 0)

return;

}

printf("These are the available room(s):\n");

for(int k = 0; k < 10; k++)

if(taken\_roomB[k] == 0)

printf("%d ",k+1);

printf("Please select your room(s):\n");

for(int k = 0; k < rc; )

{

scanf("%d",&rw);

while (rw < 1 || rw > 10)

{

printf("Wrong room number, please enter a correct number.\n");

scanf("%d",&rw);

}

taken\_flagB = 0;

for(int j = 0; j < 10; j++)

{

if(rw == taken\_roomyB[j])

{

printf("Room already taken\n");

taken\_flagB = 1;

break;

}

}

if (taken\_flagB == 0)

{

printf("Room reserved\n");

done = 1;

taken\_roomyB[atB] = rw;

atB++;

taken\_roomB[rw - 1] = 1;

k++;

}

}

}

cust[nc].Brooms += rc;

}

void packageV ()

{

int choicePack;

printf("There are 3 available packages for you VACATION trip room(s):\n");

printf("1. For breakfast only with cost of $30 per night, press 1:\n\n");

printf("2. For half board with cost of $50 per night, press 2:\n\n");

printf("3. For all inclusive with cost of $70 per night, press 3:\n\n");

printf("Kindly, select your package Mr(s).%s:\n",cust[nc].names);

scanf("%d",&choicePack);

while(choicePack != 1 && choicePack != 2 && choicePack != 3)

{

printf("Inappropriate input, please enter another correct number:\n");

scanf("%d",&choicePack);

}

switch(choicePack)

{

case 1: cust[nc].CHOICEV = 30;break;

case 2: cust[nc].CHOICEV = 50;break;

case 3: cust[nc].CHOICEV = 70;break;

}

}

void packageB ()

{

int choicePack;

printf("There are 3 available packages for your BUSINESS trip room(s):\n\n");

printf("1. For breakfast only with cost of $30 per night, press 1:\n\n");

printf("2. For half board with cost of $50 per night, press 2:\n\n");

printf("3. For all inclusive with cost of $70 per night, press 3:\n\n");

printf("Kindly, select your package Mr(s).%s:\n",cust[nc].names);

scanf("%d",&choicePack);

while(choicePack != 1 && choicePack != 2 && choicePack != 3)

{

printf("Inappropriate input, please enter another correct number:\n");

scanf("%d",&choicePack);

}

switch(choicePack)

{

case 1: cust[nc].CHOICEB = 30;break;

case 2: cust[nc].CHOICEB = 50;break;

case 3: cust[nc].CHOICEB = 70;break;

}

}

void receiptss(){

for(int j = 0; j < nc;j++)

{

printf("Customer %d name: %s\n",j + 1,cust[j].names);

if (cust[j].Vrooms > 0)

{

printf("He/She took %d VACATION rooms\n",cust[j].Vrooms);

printf("Their price was $%0.2f\n",cust[j].receiptV);

if(cust[j].CHOICEV == 30)

printf("With selected package: Breakfast only\n");

else if(cust[j].CHOICEV == 50)

printf("With selected package: Half board\n");

else if(cust[j].CHOICEV == 70)

printf("With selected package: All inclusive\n");

}

if (cust[j].Brooms > 0)

{

printf("He/She took %d BUSINESS rooms\n",cust[j].Brooms);

printf("Their price was $%0.2f\n",cust[j].receiptB);

if(cust[j].CHOICEB == 30)

printf("With selected package: Breakfast only\n");

else if(cust[j].CHOICEB == 50)

printf("With selected package: Half board\n");

else if(cust[j].CHOICEB == 70)

printf("With selected package: All inclusive\n");

}

printf("Total price is $%0.2f\n\n",cust[j].total);

}

}

**Screenshots:**















