

# Programming Fundamental

## Project on Hotel Management

```
#include <fstream>

#include <iostream>

#include <vector>

#include <string>

#include <ctime>

#include <chrono>

#include <iomanip>

#include <windows.h>

using namespace std;

void firstScreen();

void loadingbar();

void Loadingbar();

void guestInformation();

void availabilityOfRoom();

void bookingStayDuration();

void meal();

void clearanceOfBill();

void checkinCheckout();

void loadfile();


int standardRoom, deluxeRoom, roomtype, roomnum, roomrent, royalRoom, choice,
advancePayment, total_Bill, totalMealBill, totalRent, breakfastBill,
breakfastNetBill, lunchBill, lunchNetBill, DinnerBill, DinnerNetBill;

string stayDuration, roomType , person;

const int fsj = 400;

const int hfet = 200;

const int ott = 700;

const int sandwt = 600;

const int biryani = 300;

const int psw = 500;
```

```

const int psh = 900;

const int psp = 1500;

const int cs = 250;

const int ck = 200;

const int bk = 1000;


int main()
{

    system("Color 72");


    int secondchoice;


    firstScreen();
    loadingbar();
    while(true)
    {
        cout << setw(40) << "\n WELCOME To RA HOTEL \a" << endl;

        cout << " 1 New Hotel Guest \a" << endl;
        cout << " 2 Credits" << endl;
        cout << " 3 Exit" << endl;
        cout << "Enter to select option: ";
        cin >> choice;
        switch (choice)
        {
        case 1:
        {
            while (true)
            {
                system("CLS");
                guestInformation();
                availabilityOfRoom();
                bookingStayDuration();
                meal();
            }
        }
        }
    }
}

```

```

clearanceOfBill();

checkinCheckout();


cout << "Press 1 or 2 to go back to the main menu " << endl;
cin >> secondchoice;
if (secondchoice == 2)
{
    break;
}
}
system("CLS");
break;
}
case 2:
{
    cout << " AFFAN AHMED    70143338 \n";
    cout << " HIRA KHALID    70143855 \n";
    cout << "Press 1 to go back" << endl;
    cin >> secondchoice;
    if (secondchoice == 1)
    {
        break;
    }

    break;
}
case 3:
    return 0;
}

return 0;
}

void loadingbar()

```

```

{

    int i=0;

    cout<<"\nPlease wait while loading... \n\n";

    while (i <= 150)

    {

        for(int j=0;j<=i;j+=7)

            {

                cout<<char(178);

            }

        Sleep(500);

        i+=18;

    }

    system("CLS");

}

void firstScreen()

{

    system("CLS");

    cout << setw(45)<< " ~~~~~ " << endl;

    cout << setw(45)<< "PROGRAMMING FUNDAMENTAL " << endl;

    cout << setw(45)<< "PROJECT ON " << endl;

    cout << setw(40)<< "HOTEL " << endl;

    cout << setw(45)<< "MANAGEMENT " << endl;

    cout << setw(30)<< "By:-

" << endl;

    cout << setw(44)<< "Affan Ahmed, Hira Khalid " << endl;

    cout << setw(45)<< " ~~~~~ " << endl;

    cout << setw(40) << " RA HOTEL \n";

    cout << setw(45) << " WELCOME To RA HOTEL \n";

}

void guestInformation()

{

    cout << setw(40) << " RA HOTEL \n\a";

    string firstname,lastname,contactNumber, cnic, passportNumber, city;

```

```

        cout<<"\n Guest Registration \n";
        cout << " Enter the Guest Information. \n";
        cout << " Enter the Name of Guest. \n";
        cin >> firstname >> lastname;
        cout << " Enter the Guest Contact Number \n";
        cin >> contactNumber;
        cout << " Enter the CNIC Number of Guest. \n";
        cin >> cnic;
        cout << " Enter the Passport Number for the Foreign Guest. \n";
        cin >> passportNumber;
        cout << " Enter the City of Guest. \n";
        cin >> city;
        cout << " Guest Name: " << firstname << " " << lastname << endl;
        cout << " Guest Contact Number:" << contactNumber << endl;
        cout << " Guest CNIC Number: " << cnic << endl;
        cout << " Guest Passport Number: " << passportNumber << endl;
        cout << " Guest City: " << city << endl;
    }
    void availabilityOfRoom()
    {
        int choice;
        cout << "   Select the Room \n";
        cout << " 1 Standard room \n";
        cout << " 2 Deluxe room \n";
        cout << " 3 Royal room \n";
        cin >> choice;

        switch (choice)
        {
        case 1:
        {
            cout << " Standard Room \n";

            int array_Single_Person[100] = {0};

```

```
int array_Double_Person[100] = {0};

int array_Family[100] = {0};


int type;


cout << " Select type of Room " << endl;
cout << " 1 Single Person " << endl;
cout << " 2 Double Person " << endl;
cout << " 3 Family " << endl;
cin >> type;


cout << "Enter the room number" << endl;
cin >> roomnum;


if (type == 1)
{
    if (array_Single_Person[roomnum] == 1)
    {
        cout << "Room is occupied \n";
        return availabilityOfRoom();
    }
    else
    {
        cout << "Room is not occupied \n";
        cout << "Single Person Room Price is 800 Rs \n";
    }
}
else if (type == 2)
{
    if (array_Double_Person[roomnum] == 1)
    {
        cout << "Room is occupied \n";
        return availabilityOfRoom();
    }
    else
    {
        cout << "Room is not occupied \n";
```

```

        cout << "Double Person Room Price is 1000 Rs \n";
    }
    else if (type == 3)
    {
        if (array_Family[roomnum] == 1)
        {
            cout << "Room is occupied \n";
            return availabilityOfRoom();
        }
        else
        {
            cout << "Room is not occupied\n";
            cout << "\n Family Room Price is 2000 Rs \n";
        }
    }
    else
    {
        cout << "Invalid room type";
    }
    break;
}

```

case 2:

```

{
    cout << setw(50) << " Deluxe Room \n";

    int array_Single_Person[100] = {0};
    int array_Double_Person[100] = {0};
    int array_Family[100] = {0};

    int type,roomnum;

    cout << " Select type of Room" << endl;
    cout << " 1 Single Person " << endl;
    cout << " 2 Double Person " << endl;
    cout << " 3 Family " << endl;
}

```

```
cin >> type;
```

```
cout << "Enter the room number " << endl;
```

```
cin >> roomnum;
```

```
if (type == 1)
```

```
{
```

```
    if (array_Single_Person[roomnum] == 1)
```

```
    {
```

```
        cout << "\n Room is occupied \n";
```

```
        return availabilityOfRoom();
```

```
    }
```

```
    else
```

```
        cout << "\n Room is not occupied";
```

```
        cout << "\n Single Room Price is 2500 Rs \n";
```

```
}
```

```
else if (type == 2)
```

```
{
```

```
    if (array_Double_Person[roomnum] == 1)
```

```
    {
```

```
        cout << "Room is occupied"<<endl;
```

```
        return availabilityOfRoom();
```

```
    }
```

```
    else
```

```
        cout << "\n Room is not occupied \n";
```

```
        cout << "\nDouble Person Room Price is 3000 Rs \n";
```

```
}
```

```
else if (type == 3)
```

```
{
```

```
    if (array_Family[roomnum] == 1)
```

```
    {
```

```
        cout << "\n Room is occupied \n";
```

```
        return availabilityOfRoom();
```

```
    }
```



```

else

    cout << "\n Room is not occupied \n";

    cout << "\n Family Room Price is 3500 Rs \n";

}

else

{

    cout << "Invalid room type";

}

break;

}

case 3:

{

    cout << " Royal Room \n";


    int array_Single_Person[100] = {0};
    int array_Double_Person[100] = {0};
    int array_Family[100] = {0};


    int type,roomnum;


    cout << " Select type of Room" << endl;
    cout << " 1 Single Person " << endl;
    cout << " 2 Double Person " << endl;
    cout << " 3 Family " << endl;
    cin >> type;


    cout << "Enter the room number" << endl;
    cin >> roomnum;


    if (type == 1)

    {

        if (array_Single_Person[roomnum] == 1)

        {

```

```

        cout << "\n Room is occupied \n";
        return availabilityOfRoom();
    }
    else
        cout << "\n Room is not occupied \n";
        cout << "\n Single Person Room Price is 4000 Rs \n";
    }
    else if (type == 2)
    {
        if (array_Double_Person[roomnum] == 1)
        {
            cout << "\n Room is occupied \n";
            return availabilityOfRoom();
        }
        else
            cout << "\n Room is not occupied \n";
            cout << "\n Double Person Room Price is 5000 Rs \n";
    }
    else if (type == 3)
    {
        if (array_Family[roomnum] == 1)
        {
            cout << "\n Room is occupied \n";
            return availabilityOfRoom();
        }
        else
            cout << "\n Room is not occupied\n";
            cout << "\n Family Room Price is 6000 Rs \n";
    }
    else
    {
        cout << "Invalid room type";
    }
}

```

```

        break;
    }

    default:

        cout << "Invalid input. Please enter the number from (1-3)";

    }

}

void bookingStayDuration()
{
    cout << " Room Booking. "<<endl;
    cout << setw(40) << " Enter name of Room Booking . (Room Type) " << endl;
    cin >> roomType;
    cout<< " Guest stay duration \n";
    cin >> stayDuration;

    cout<< " He has Booked the Room: " <<roomType<<"\n RoomNum:
"<<roomnum<< endl;


        cout << " Guest stay duration " << stayDuration <<" days"<<endl;
        cout << " Enter Room rent: \n";
        cin>>roomrent;
        totalRent = roomrent * stoi(stayDuration);
        cout<<" totalRent: "<<totalRent<<endl;
    }

void meal()
{
    cout << setw(40) << " ----- Meal Menu ----- \n";
    cout << setw(40) << " Press 1 for Breakfast Menu \n";
    cout << setw(40) << " Press 2 for Lunch Menu \n";
    cout << setw(40) << " Press 3 for Dinner Menu \n";

```

```

        cout << setw(40) << " ----- \n";

cin >> choice;
switch (choice)
{

case 1:
{
    cout << " ===== Breakfast Menu =====\n";
    cout << " |          For Per Person          | \n";
    cout << " |=====| \n";
    cout << " |      List              Price | \n";
    cout << " |=====| \n";
    cout << " | 1- Fruit salad with juice      400 Rs | \n";
    cout << " | 2- Half fried egg with tea     200 Rs | \n";
    cout << " | 3- Omelette with truffles and tea 700 Rs | \n";
    cout << " | 4- Sandwich                  600 Rs | \n";
    cout << " =====\n";

    cout << " Enter the Total Person for Meal. \n";
    cin >> person;
    cout<< " Meal for " << person << " Person." << endl;

    breakfastBill = fsj + hfet + ott + sandwt;
    breakfastNetBill = breakfastBill*stoi(person)* stoi(stayDuration);
    cout<<"Breakfast Net Bill: "<<breakfastNetBill<<endl;

}

    return meal();
    break;

case 2:
{
    cout << " ===== Lunch Menu ===== \n";
    cout << " |          For Per Person          | \n";
    cout << " |=====| \n";

```

```

cout << " |                               Price | \n";
cout << " |=====| \n";
cout << " | 1- Biryani           300 Rs | \n";
cout << " | 2- Pasta Soupegitarian wrap  500 Rs | \n";
cout << " | 3- Prime Sandwich       5000 Rs | \n";
cout << " | 4- Pasta Soup           1500 Rs | \n";
cout << " ===== \n";
cout << " Enter the Total Person for Meal. \n";

cin >> person;

cout<< " Meal for " << person << " Person." << endl;

    lunchBill = biryani + psw + psh + psp;
    lunchNetBill = lunchBill*stoi(person)* stoi(stayDuration);

    cout<<"Lunch Net Bill: " <<lunchNetBill<<endl;
}

return meal();

break;

case 3:
{
    cout << " ===== Dinner Menu ===== \n";
    cout << " |      For Per Person      | \n";
    cout << " |=====| \n";
    cout << " |   List           Price | \n";
    cout << " |=====| \n";
    cout << " | Chicken Soup       250 Rs | \n";
    cout << " | Chapli Kabab       200 Rs | \n";
    cout << " | Beef Korma        1000 Rs | \n";
    cout << " ===== \n";

    cout << " Enter the Total Person for Meal. \n";

    cin >> person;

    cout<< " Meal for " << person << " Person." << endl;

    DinnerBill = cs + ck + bk;

    DinnerNetBill= DinnerBill*stoi(person)* stoi(stayDuration);

    cout<<"Dinner Net Bill: " <<DinnerNetBill<<endl;
}

```

```

        break;
    }
    default:
        cout << "Invalid input. Please enter a number from (1-3)";
    }

    cout << setw(40) << " Advance Payment: \n";
    cin >> advancePayment;
}

void clearanceOfBill()
{
    cout << setw(40) << " ----- RA Hotel Bill ----- \n";
    cout << setw(90) << " Advance Payment: " << advancePayment << " Rs"<<endl;
    cout << setw(90) << " Total room rent: " << totalRent << " Rs"<<endl;
    if(breakfastNetBill+lunchNetBill+DinnerNetBill)
    {
        totalMealBill= breakfastNetBill+lunchNetBill+DinnerNetBill;
        cout << setw(90) << " Total meal bill: " << totalMealBill << "
Rs"<<endl;
    }
    else if (breakfastNetBill+DinnerNetBill)
    {
        totalMealBill=breakfastNetBill+DinnerNetBill;
        cout << setw(90) << " Total meal bill: " << totalMealBill << " Rs"<<endl;
    }
    else if (lunchNetBill+DinnerNetBill){
        totalMealBill=lunchNetBill+DinnerNetBill;
        cout << setw(90) << " Total meal bill: " << totalMealBill << "
Rs"<<endl; }
    else{
        totalMealBill=DinnerNetBill;
        cout << setw(90) << " Total meal bill: " << totalMealBill << "
Rs"<<endl;
    }
}

```

```

total_Bill = ((totalRent + totalMealBill) - advancePayment);

cout<<setw(90)<<" Total bill= "<<total_Bill<<" Rs"<<endl;


cout<<" Payment Method \n";

cout<<" 1 Cash Payment \n";

cout<<" 2 Online Payment \n";


cin>>choice;

switch(choice)
{
    case 1:
        cout<<" Cash Payment \n";
        cout<<" Guest paid the bill in cash. \n";
        break;
    {
        case 2:
            cout<<" Online Payment \n";
            cout<<" Guest paid the bill online. \n";
            break;
        }
    default:
        cout<<" Invalid Input! Enter the value between(1-2) \n";
    }
}

void checkinCheckout()
{
    cout << setw(40) << " Guest date and time of Checkin and Checkout \n";
    auto currentTime = chrono::system_clock::now();
    auto futureTime = currentTime + chrono::hours(stoi(stayDuration) * 24);
    time_t currentTimeT = chrono::system_clock::to_time_t(currentTime);
    time_t futureTimeT = chrono::system_clock::to_time_t(futureTime);
    char currentBuffer[80];
    char futureBuffer[80];

```

```
    strftime(currentBuffer, sizeof(currentBuffer), "%d-%m-%y %H:%M:%S",
localtime(&currentTimeT));

    strftime(futureBuffer, sizeof(futureBuffer), "%d-%m-%y %H:%M:%S",
localtime(&futureTimeT));

    cout << "Check in date and time: " << currentBuffer << endl;
    cout << "Check out date and time: " << futureBuffer << endl;
}
}
```