HOTEL ROOM BOOKING PROGRAM

Author – Rishu Kumar

Working of My program:

- Four subroutines have been included in this program.
- Subroutines are as following.

First, we have welcome message:

```
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
*****-----------------------------------------------------------------*****

^^^^^^^      WELCOME TO HOTEL ROOM BOOKING PROGRAM      ^^^^^^^^

*****-----------------------------------------------------------------*****
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
```

Then, program will display main menu :

```
*-- WELCOME TO MAIN MENU --*


Press 1 to Book a Room.

Press 2 to Show all booked Room.

Press 3 to Search Your Room.

Press 4 to check out Room.

Press 5 to exit.
```

1. Then the first subroutine is book_room()

   .1.1. There first program will ask that for how many users you are booking the room.
   .1.2. Then after user input program will ask basic details.
   .1.3. Then the room number which is assigned a for type of room.
   .1.4. For single room the rooms are 1 to 40.
   .1.5. For double room the rooms are 41 to 80.
   .1.6. Once a room is booked it can't book again.
   .1.7. Then after all details the program will show room is booked and you can book another room again.
   .1.8. After this program will show main and can book n number of rooms.

2. Then the second subroutine is show()

   .2.1 program will show all the booked rooms .

```
Data of Tenent's: 1

Name: Rishu
Room number: 12
Room type: 1
Address: india
Contact Number: 9898767509
```

   .2.2 if there will be no booked room then it will no data found

```
* Data Not Found! *
```

3. Third subroutine is void search()
   .3.1program will ask room number and then show all details of tenant.

```
Data of Tenent's: 1

Name: Rishu
Room number: 12
Room type: 1
Address: india
Contact Number: 9898767509
```

4. Fourth subroutine is check out room()
   .4.1 program will ask room number and show total amount and discount.

```
Enter the room no of tenent:
12
Name: Rishu
Reservation number: 88073
Room number: 12
Room type: 1
Number of Nights: 3
Address: delhi
Contact Number:98987678
------------------------------------------------------------------------------
You have selected single room and will staying here for 3 nights
Your total amount is 300 euros
You get 10% discount
Your total bill is 270 euros
```

According to me it is a grade 4-5 program.

// It is a grade 5 program according to me.
// I have included every thing that was needed in grade 5 program.
// this program has room numbers from 1 to 80.
// first half of the rooms is for single room type that is from room 1 to 40

// second half of the rooms is for double room type that is from room 41 to 80
// discount will be given on total amount randomly
// user can not enter same room twice.
// rooms can not be repeated.
// random reservation number will be generated and shown when user check out.
// tenents can search the room using room number.
// customer can book room till n number of rooms.

Code for main .cpp file is as follows:

```cpp
#include<iostream>
using namespace std;
string name[100];      //for name of tenent.
string address[80];    //for address of tenent.
string contact_number[80];     //for Contact number of tenent.
int room_type[80];          //for room type single or double.
int discount;             //for giving random discount to tenent.
int number_of_night;        // for number of nights staying
int total=0;             //for initialising total
float m=0;               //for initialising m
float room_number[80];      //for room number

//subroutines used in the program.
//total 4 subroutines have been used in this program.

void book_room()   //subroutine for booking room and tenent details.
{
                int count=0;            // asking for how many rooms need to be booked.
                cout<<"Enter the number of tenents you are booking for: "<<endl;
                cin>>count;
                if(total==0)
```

```cpp
                    {
                    total=count+total;
                    for(int i=0;i<count;i++)
                    {              // asking for tenent basic details.
                              cout<<"\nTenent's Detail: "<<i+1<<endl<<endl;
                              cout<<"Enter Name: ";
                              cin>>name[i];
          cout<<endl;        // asking for room type single or double.
          cout<<"Enter Room type (1 for single or 2 for double): ";
          cin>>room_type[i];
          cout<<endl;
          cout<<"Enter Room number: ";
          if (room_type[i]==1)  //defining room numbers for single type
          {
             cin>>room_number[i];
             while (room_number[i]<1 || room_number[i]>40)
             {
                cout<<"Single room are 1 to 40  Enter again: ";// if input is out of range
                cin>> room_number[i];
             }
          }
          else if (room_type[i]==2)      //defining room numbers for double type
          {
             cin>>room_number[i];
             while (room_number[i]<41 || room_number[i]>80)
             {
                cout<<"Double room are 41 to 80  Enter again: ";// if input is out of
range
                cin>> room_number[i];
             }
          }
          if(room_number[i]>m) //function that dont allow customer to input same
room number twice.
          {m=room_number[i];}
          else if (room_number[i] == m)
          {
             cout<<"\nRoom is already booked!"<<endl;// if room is already booked.
             cout<<"Enter another Room number: ";
             cin>>room_number[i];
          }


          cout<<endl;
          cout<<"Enter Number of Nights to Stay: ";// asking for number of nights to
stay
          cin>>number_of_night;
          cout<<endl;
```

```cpp
                              cout<<"Enter Tenent's address: ";   //for address
                              cin>>address[i];
          cout<<endl;
                              cout<<"Enter Tenent's contact number: ";      //for
contact number
                              cin>>contact_number[i];
          cout<<endl;                // after every details data will saved in array and can
book again.
          cout<< "       --------- Room has been booked ------------      "<<endl;
          cout<<endl;
                    }
              }
              else
              {          //for another user input same repeat again
                  for(int i=total;i<count+total;i++)
                  {
                              cout<<"\nTenent's Detail: "<<i+1<<endl<<endl;
                              cout<<"Enter Name:  ";
                              cin>>name[i];
          cout<<endl;
          cout<<"Enter Room type (1 for single or 2 for double): ";
                              cin>>room_type[i];
          cout<<endl;
          cout<<"Enter Room number: ";
          if (room_type[i]==1)
          {
             cin>>room_number[i];
             while (room_number[i]<1 || room_number[i]>40)
             {
               cout<<"Single room are 1 to 40  Enter again: ";
               cin>> room_number[i];
             }
          }
          else if (room_type[i]==2)
          {
             cin>>room_number[i];
             while (room_number[i]<41 || room_number[i]>80)
             {
               cout<<"Double room are 41 to 80  Enter again: ";
               cin>> room_number[i];
             }
          }
          cout<<endl;
          cout<<"Enter Number of Nights to Stay: ";
          cin>>number_of_night;
          cout<<endl;
                              cout<<"Enter Tenent's address: ";
```

```cpp
                                    cin>>address[i];
            cout<<endl;
                                    cout<<"Enter Tenent's contact number: ";
                                    cin>>contact_number[i];
            cout<<endl;
                        }
                    total=count+total;
                    }
}

void show()         //subroutine to show all thereserved room to hotel staff.
{
        if(total==0)    //if there will be no data.
        {
                cout<<"* Data Not Found! *"<<endl;
        }
        else{
                for(int i=0;i<total;i++) // display all reserved with all details.
                    {
                    cout<<"\nData of Tenent's: "<<i+1<<endl<<endl;
                    cout<<"Name: "<<name[i]<<endl;
                    cout<<"Room number: "<<room_number[i]<<endl;
                    cout<<"Room type: "<<room_type[i]<<endl;
                    cout<<"Address: "<<address[i]<<endl;
                    cout<<"Contact Number: "<<contact_number[i]<<endl;
                  }
                }
}


void check_out()     //subroutines for cheack out a room.
{
   if(total==0)          // if no data found.
        {
                cout<<"* Data Not Found! *"<<endl;
        }
        else{                   //invoice will be created using room number
        float roomno;
                    cout<<"Enter the room no of tenent: "<<endl;
                    cin>>roomno;
                    for(int i=0;i<total;i++)
                    {
                            if(roomno==room_number[i])
                            {
                                    cout<<"Name: "<<name[i]<<endl;
            cout<<"Reservation number: "<<rand() %  99999 + 10000<<endl;// for
generating random reservatin number
```

```cpp
                        cout<<"Room number: "<<room_number[i]<<endl;
                        cout<<"Room type: "<<room_type[i]<<endl;
                cout<<"Number of Nights: "<<number_of_night<<endl;
                        cout<<"Address: "<<address[i]<<endl;
                        cout<<"Contact Number:"<<address[i]<<endl;
                switch (room_type[i])        //using switch function for single or double
room type.
                {
                    case 1:              //for single room type
                    cout<<"--------------------------------------------------------------------------------
"<<endl;
                    cout<<"You have selected single room and will staying here for
"<<number_of_night<<" nights";
                    cout<<endl;
                    cout<<"Your total amount is "<<100*number_of_night<<"
euros"<<endl;
                    discount=rand() % 2 *10;        //for giving discount.
                    cout<<"You get "<<discount<<"% discount"<<endl;
                    cout<<"Your total bill is "<<100*number_of_night-
100*number_of_night * discount*0.01<<" euros"<<endl;
                    break;


                    case 2:              //for double room type
                    cout<<"--------------------------------------------------------------------------------
"<<endl;
                    cout<<"You have selected Double room and will staying here for
"<<number_of_night<<" nights";
                    cout<<endl;
                    cout<<"Your total amount is "<<150*number_of_night<<"
euros"<<endl;
                    discount=rand() % 2 *10;
                    cout<<"You get "<<discount<<"% discount"<<endl;
                    cout<<"Your total bill is "<<150*number_of_night-
150*number_of_night * discount*0.01<<" euros"<<endl;
                    break;
                    default:

                        break;
                    }
                }
                            }
                        }
                    }


void search()     //subroutines for serarching tenent using room number.
```

```cpp
{
        if(total==0)      //if no data found.
        {
                cout<<"* Data Not Found! *"<<endl;
        }
        else{
        float roomno;
                        cout<<"Enter the room Number of tenent: "<<endl;
                        cin>>roomno;

                        for(int i=0;i<total;i++)
                        {                   // displaying details using room
number
                                if(roomno == room_number[i])
                                {
                                        cout<<"Name: "<<name[i]<<endl;
                cout<<"Reservation number: "<<rand() %  99999 + 10000<<endl;
                        cout<<"Room number: "<<room_number[i]<<endl;
                            cout<<"Room type: "<<room_type[i]<<endl;
                            cout<<"Address: "<<address[i]<<endl;
                        cout<<"Contact Number:"<<address[i]<<endl;
                                        }
            else
            {

            }
          }

                        }
}

// tried to design a menu for hotel booking program.


int main()
{
        int option;

    cout<<"
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@"            <<endl;   //an
attractive way to welcome tenents and showing main menu.
    cout<<"           *****--------------------------------------------------*****"
<<endl;
    cout<<endl;
```

```cpp
    cout<<"            ^^^^^^^   WELCOME TO HOTEL ROOM BOOKING PROGRAM
^^^^^^^^"            <<endl;
    cout<<endl;
    cout<<"           *****---------------------------------------------*****"
<<endl;
    cout<<"
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@"<<endl;
    cout<<endl;
    cout<<endl;
        while(true)
        {
    cout<<"*-- WELCOME TO MAIN MENU --*"<<endl; //indication for main menu.
    cout<<endl;
    cout<<endl;
    cout<<"Press 1 to Book a Room."<<endl;      // option for booking a program.
    cout<<endl;
    cout<<"Press 2 to Show all booked Room.    "<<endl; // option for showing all
reserved room.
    cout<<endl;
    cout<<"Press 3 to Search Your Room."<<endl;    // option for searching a room.
    cout<<endl;
    cout<<"Press 4 to check out Room."<<endl;     // option for check_out a room.
    cout<<endl;
    cout<<"Press 5 to exit."<<endl;             // to exit and start again.
        cin>>option;
        switch(option)
        {
                case 1:
                    book_room();
        cout<<endl;
          cout<<endl;
          cout<<endl;
          cout<< "  *****-------------- Thankyou! --------------*****  "<<endl;  //
greeting the tenent at the end of booking room.
          cout<< "*****-------------- Have a Nice Day --------------*****"<<endl;
          cout<<endl;
                    break;
                case 2:
                    show();      //for showing all reserved room
                    break;
                case 3:
                    search();    //for searching reserved room by room number
                    break;
                case 4:
                    check_out();   //to check out from a hotel and to calculate
invoice
```

```cpp
                    break;
            case 5:
                    cout<<"            You exit the program              "<<endl;
        cout<<endl;
                    break;
            default:
                    cout<<"Invalid input"<<endl;
        cout<<endl;
                    break;
         }
      }
      }
      /////  end of program.............
```

Code for .h file:

```cpp
#pragma once
void book_room();
void show();
void check_out();
void search();
```