School Of Computing

Faculty of Engineering

UNIVERSITI TEKNOLOGI MALAYSIA

DATA STRUCTURE AND ALGORITHMS

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SEMESTER 1 SESSION 2018/2019

MINI PROJECT DOCUMENTATION

Hotel Booking System

By

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CONTENT

PART 1: INTRODUCTION

1.1 SYNOPSIS PROJECT

Hotel booking system is an important part in the life of a modern hotel, because it ensures proper work of the hotel, making it efficient and provides the option to book a room online. Rather than using the manual way of keeping all the information in files, it is also not in the best privacy security condition where sabotage or any embezzlement might occur. It is also not in the most efficient way and human error might happen as well. Hence, that is why a booking system is more convenient to replace traditional booking system. Even nowadays, online hotel booking has become popular where costumer do not have to go to the actual hotel to book rooms, but they can book it from their home or from anywhere they are using phones or laptops. This is very helpful for those who came to travel from a far to find a room that matches to their liking.

This project is indicated to ease the process of booking hotel room, make an early reservation for the hotel hall, or any other transactions the customer may want to perform. We focused on booking system that will be applicable for only the customer whereas they can have a better booking experience with more understandable guidance for the user to understand how to use the system we offered. Our system is a computerised system that stores all the user's information safely and securely and let the user see their reservation summary that includes the room and the process of paying and booking rooms.

Since the data for room availability will require the system to be able to search for the availability fastly, we used searching technique for the program to search for available room.from a data file that consist of all room details. This will improve the reachability of the data. We also used queue to store room details. Our system is an online booking system that works all the time. This allow customers to book a room anytime they want. It also maximise the profit percentage because there is no working hours limit. In fact, studies shows that 24/7 online reservation system greatly

increases number of hotel bookings. The hectic and hassle way of managing the hotel can be reduced to a much likely smart and orderly. By using this system, each reservations made can be tracked with all the related details that can produce a better analysis of what the customer preferences are and what upgrades would the system will be needing in the future.

The system will send a confirmation email once the customer have booked a room. It seems that automatic emails have become the norm throughout the travel industry. It also functions as a reminder emails that help improving communications with your guests. Moreover, online procedures has been a trend where user more likely to prefer perform any transactions or tasks on the internet since it requires lesser time and more convenient for the user. Thus, online banking may meet a great opportunity to earn more profit.

1.2 OBJECTIVES

1) **To handle all data more efficiently**

The system used a fully computerised system whereas all the files related to customer and hotel management information are kept in a computer into the system. This will help improve the hotel management performance and ease the reservation process with just one device to store all important document

2) **To improve guest's reservation**

The system will be able to reach any data faster and more efficiently, thus improve the guest's reservation process with lesser amount of time and cost wasting.

3) **Increase privacy security**

Since this system totally computerised, all customer's information including transactions are safely stored into the computer. Unlike the traditional way of storing documents, there is a possibility of leakage of the customer's privacy information.

PART 2: SYSTEM ANALYSIS AND DESIGN

2.1 SYSTEM REQUIREMENTS

Use Case for Admin

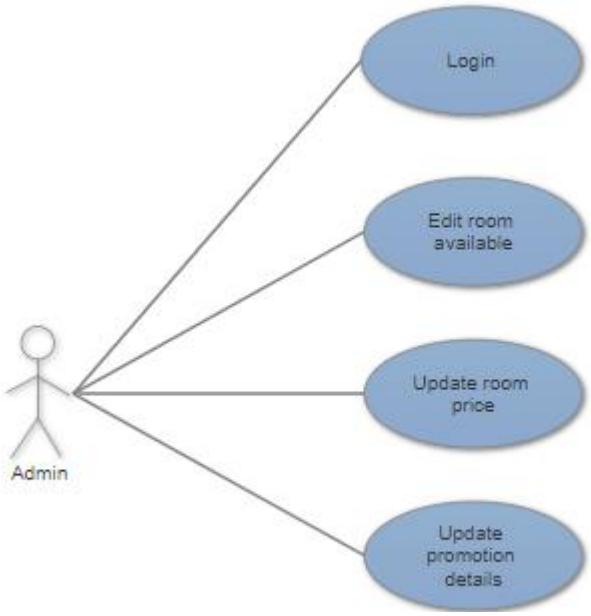


Figure 1

Use Case for Customer

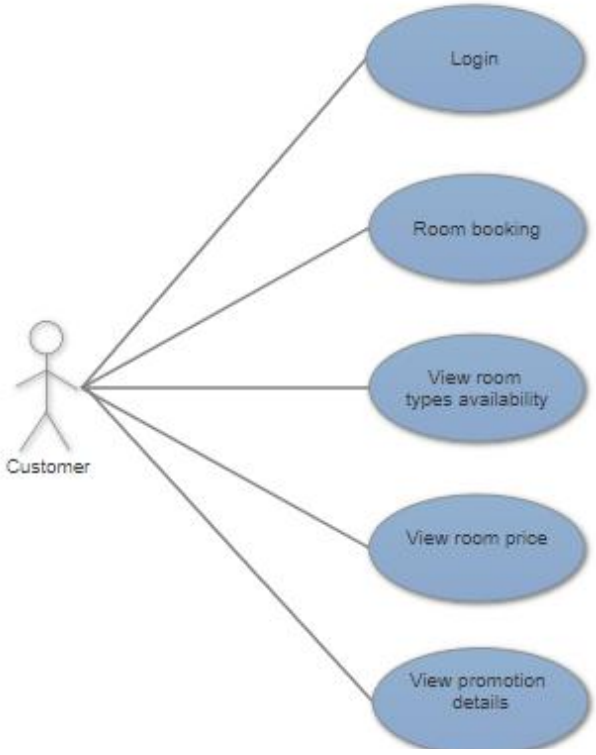


Figure 2

Use Case for Overall System

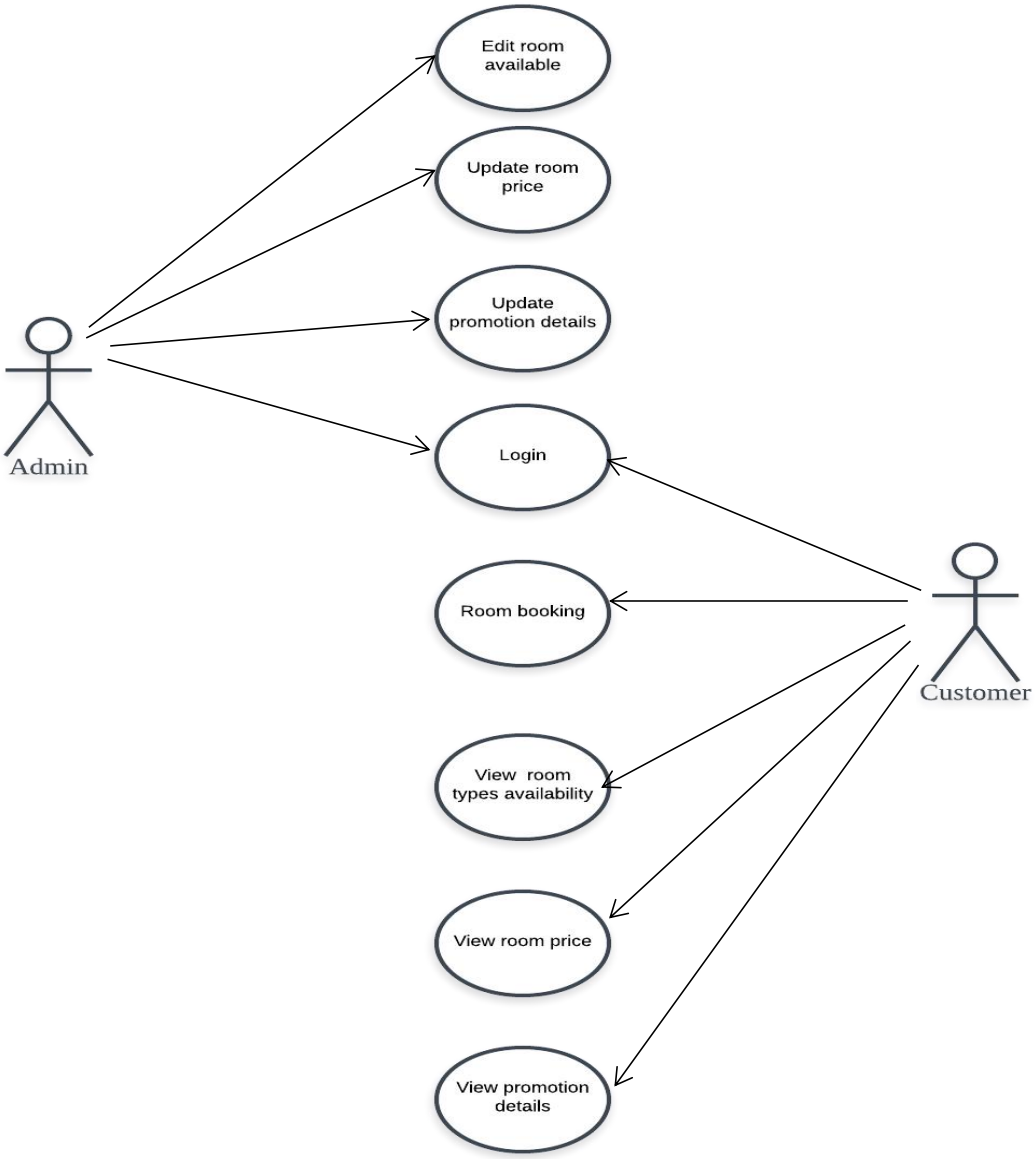


Figure 3

Use Case Description For Hotel Booking System

The system users are customer,admin and staff

Actor	Task
Admin	Admin can edit(insert/delete/update) hotel booking system.
Customer	Customer can view hotel booking system.

Table 1 show the actor in hotel booking system

Detail Description For Each Use Case

Use Case	Purpose
Edit room available	To edit(insert/delete/update) the availability of room.
Update room price	To update the latest room price.
Update promotion details	To inform the updated promotion details.
Login	To login as customer,admin and staff.
Room booking	To allow the user to book the room.
View room types availability	To allow the user to view room availability.
View room price	To allow the user to view the room price.
View promotion details	To allow the user to view the latest promotion details.

Table 2 show detail description for the each actor in hotel booking system

2.2 SYSTEM DESIGN

Swim Lane For Overall System

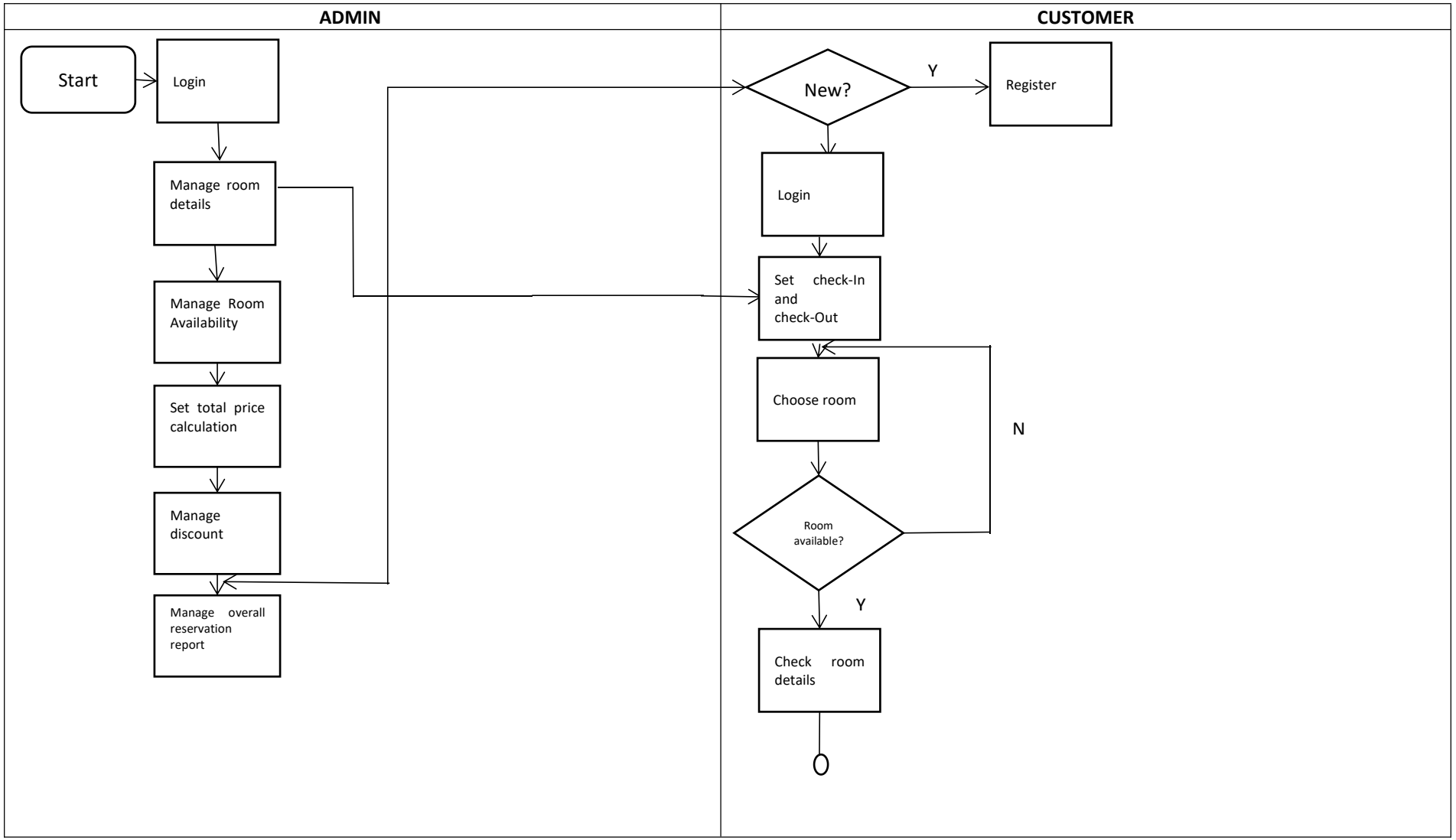
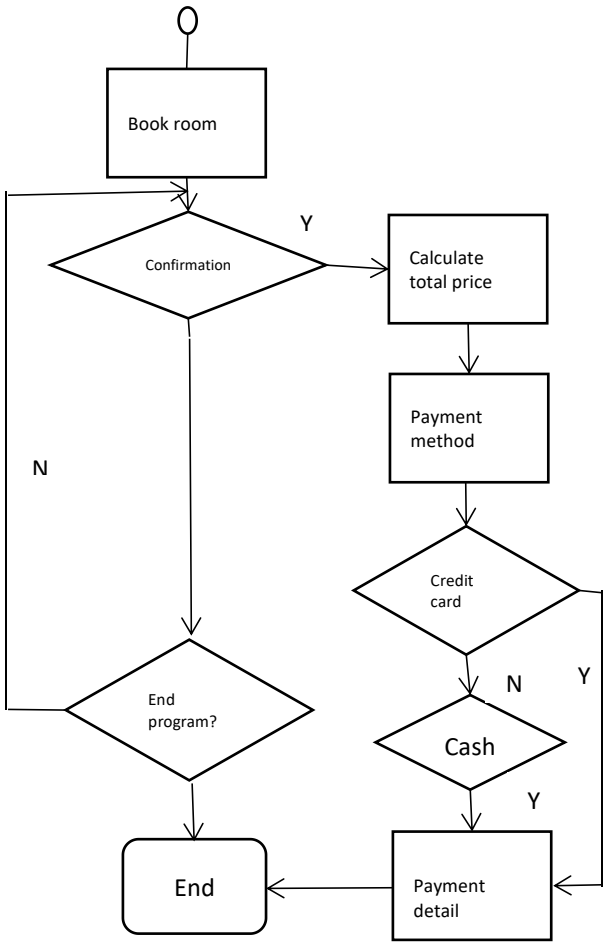


Table 3 show the swim lane for the overall system

ADMIN	CUSTOMER
	

PART 3: SYSTEM PROTOTYPE

3.1 Hotel Booking System Interface

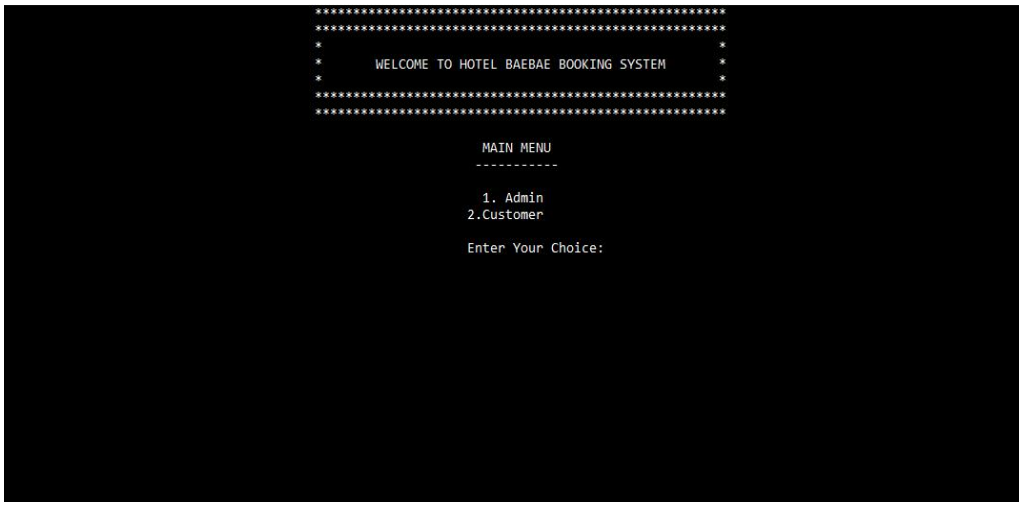


Figure 4 show the front interface for Bae Bae Hotel Booking system where they welcoming the customer.It also has main menu where you need to choose to login as admin or customer

Figure 5 show if you choose as admin you can having a few features such as manage room and price ,manage discount,view reservation report and manage discount

Figure 6 show the choices for customer whether you are new member or vice versa for enjoying the discount that provided by admin hotel booking system

Figure 7 show if you choose the new member you need to register your first name ,last name and then you can login the hotel booking system by the data that you entered in the system

3.2 Concept Data Structure In Hotel Booking System

A)Searching

```
int SequenceSearch ( string search_key , string arr
{
    int p;
    int index = -1;
    for ( p = 0 ; p < s ; p++)
    {
        if ( search_key == arr[p] )
        {
            index = p;
            break;
        }
    }
    return index;
}
```

Every element in the array will be examined until the search key is found

```
    index1 = SequenceSearch ( pwd4 , fpass);
    if( index1 != -1 )
    {
        goto book;
    }
        else
```

B) Queue:Linear Array

```
qu.createQueue();
for (int i = 0; i < n; i++) {
    count[i] = cust.getAvailability(ED, mKira+1, i);
    if (count[i] == (mKira + 1))
    {
        cout << setw(90);
        cout << "\nRoom " << cRNo[i] << " is available" << endl;
        cout << setw(30);
        qu.enQueue(cRNo[i]);
    }
```

PART 4: DEVELOPMENT ACTIVITIES

4.1 Minute Meeting For The Project

MEETING DATE	MEMBERS PARTICIPATE IN THE MEETING	ACTIVITY	TASK FOR EACH MEMBER	TASK ACHIEVED(YES/NO)
6/12/2018	Akilah,Ezra,Shawati,Suhadah	-To discuss the objective of the system -To discuss the flowchart -To discuss the class and attribute of the system	All members was involved together for brain storm the idea and best solution	Yes
8/12/2018	Akilah,Ezra,Shawati,Suhadah	-To update the flowchart -To update the class and attribute of the system -To discuss about the use case diagram	All members was involved together for brain storm the idea and best solution	Yes
11/12/2018	Akilah,Ezra,Shawati,Suhadah	-Start make the first draf for the report -Start create the flowchart for report -Start create the use case diagram for report	Ezra-system's objectives Suhada-flowchart Shawati-flowchart Akilah-use case diagram	Yes
12/12/2018	Akilah,Ezra,Shawati,Suhadah	-Meet the lecturer for confirmation first draf of report	All members was involved together for brain storm the idea and best solution	Yes
13/12/2018	Akilah,Ezra,Shawati,Suhadah	-Make the first draf of coding	Ezra-make the system's interface and divide the task	Yes
14/12/2018	Akilah,Ezra,Shawati,Suhadah	-Make the second draf of coding	Ezra-class admin Su-class staff	Yes

		-Discuss the latest flowchart	Shawati-class customer Akilah-class customer	
15/12/2018	Akilah,Ezra,Shawati,Suhadah	-Make the final part of coding -Make the final part of report	Ezra-class admin Su-class staff Shawati-class customer Akilah-update the latest flowchart and use case diagram	Yes

PART 5: APPENDIX

5.1 Source Code

```
#include <iostream>
#include <iomanip>
#include <fstream>
#include <stdlib.h>
#include <cstdlib>
#include <string>
#define sz 100
#define n 25
#define s 14
#define sd 5
#define A "deluxe single"
#define B "deluxe double"
#define C "standard single"
#define D "standard double"
#define E "standard triple"

using namespace std;
void EditRoomDetails (int a, int b[n], int c[n][s], int d);


class queue{

    private:
        int front;
        int rear;
        int items[n];

    public:

    void createQueue(){
        rear = front = -1;
    }
    bool isEmpty()
    {
        if((front == -1) && (rear == -1))
```

```
    {
        if((front == -1) && (rear == -1))
            return true;
        else
            return false;
    }
//  bool isFull();
    void enQueue(int value){

        if(rear == (sz  -1))
            cout << "Queue is Full\n";
        else
        {
            if(front == -1){
                front = 0;
            }

            rear++;
            items[rear] = value;
        }
    }
    void deQueue(){
    if(isEmpty())
    {

    cout << "Queue is Empty\n";

    }
    else
        if(front == rear)
        {
            front = front -1;
        }
        else
        {
```

```
            front++;
        }
    }

    void showFront()
    {
        if(isEmpty())
            cout << "queue is Empty/n";
        else
            cout << "Element at front is :" << items[front];
    }

    void display(){
        if(isEmpty())
            cout<<"queue is Empty\n";
        else
            for(int i = front; i<=rear; i++)
                cout << items[i] << " ";
    }

    void showBack() {
        if(isEmpty())
            cout<<"queue is Empty\n";
        else
            cout << "Element at back is :" << items[rear];
    }
};

////////////////////////////////////////////

class Admin {
    private :
        string id;
        string pass;
```

```
        int roomNo[n], Ddate[n][s];
        float Rprice[n];     // Rprice = room price, Pprice = promo price
        string Pdate;   //Ddate = duration date, Pdate = promo date

    public :
        float DPriceR, DPriceC;
        Admin () {
            id  = pass = "";
        }
        void logIn() {
            cout << "======= LOGIN =======";
            cout << "ID : ";
            cin >> id;
            cout << "Password : ";
            cin >> pass;
            cout << "====================\n";
        }
        void readFile();
        void readDurationFile();
        char getRoomType(char R[n]);
        int getRoomNo (int R[n]);
        float getPrice (float R[n]);
        int getDuration (int R[n][s]);
        int EditDuration (int a, int b[n], int d[s], int &index);
        void details();

        void ChangeDuration (int d[s], int index) {
            for (int i = 0; i < s; i++) {
                Ddate[index][i] = d[i];
            }
        }

        void changePrice (float a, int index) {
            Rprice[index] = a;
        }
```

```
139             Rprice[index] = a;
140         }
141
142         void setDPriceR () {
143             DPriceR = 0.25;
144         }
145
146         void setDPriceC () {
147             DPriceC = 0.2;
148         }
149
150         float getCustDiscount () {
151             return DPriceC;
152         }
153
154         float getRoomDiscount () {
155             return DPriceR;
156         }
157
158         void changeDiscCust (float a) {
159             DPriceC = a;
160         }
161
162         void changeDiscRoom (float a) {
163             DPriceR = a;
164         }
165
166         void Reservation_Report ()
167         {
168             cout << "Thank you for choosing our hotel for your stay" << endl
169                  << "Here's the detail for your booking : " << endl << endl ;
170
171             cout << "Room Type     : "
172                  << "\nRental Charge : "
173                  << "\nTaxes         : "
```

```
172                  << "\nRental Charge : "
173                  << "\nTaxes         : "
174                  << "\nTotal charge  : "
175                  << "\nPayment       : \n" ;
176
177         }
178 };
179
180 void Admin :: readFile()
181 {
182     ifstream inp;
183     inp.open("RoomDetail.txt");
184
185     int a = 0;
186     while (!inp.eof()) {
187     inp >> roomNo[a];
188     inp.ignore();
189     inp >> roomType[a];
190     inp >> Rprice[a];
191
192     a++;
193     }
194
195 }
196
197 void Admin :: readDurationFile() {
198     ifstream finn;
199     finn.open("DatesAvailable.txt");
200
201     for (int i = 0; i < n; i++) {
202         for (int j = 0; j < s; j++) {
203             finn >> Ddate[i][j];
204         //  fin.ignore();
205         }
206
```

```
        }


    }
    finn.close();
}

char Admin :: getRoomType (char R[n]) {
    for (int j = 0; j < n; j++)
        R[j] = roomType[j];

}

int Admin :: getRoomNo (int R[n]) {
    for (int i = 0; i < n; i++)
        R[i] = roomNo[i];
}

float Admin :: getPrice (float R[n]) {
    for (int i = 0; i < n; i++)
        R[i] = Rprice[i];
}

int Admin :: getDuration (int R[n][s]) {
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < s; j++) {
            R[i][j] = Ddate[i][j];
        }
    }
}

int Admin :: EditDuration (int a, int b[n], int d[s], int &index) {

    for (int i = 0; i < n; i++) {
        for (int j = 0; j < s; j++) {
```

```
                d[j] = Ddate[i][j];
                index = i;
            }
        }
    }
}

void Admin :: details() {
    cout << setw(126) << "-----------------------------------------------------------------------------------------\n"
         << setw(60) <<"ROOM TYPE" << setw(15) << "ROOM NUMBER" << setw(20) << "PRICE PER NIGHT" << setw(25) << "ROOM AVAILABILITY\n"
         << setw(126) << "-----------------------------------------------------------------------------------------\n";


    for (int j = 0; j < n; j++) {
            int b = s - 1;
            cout << setw(60) << roomType[j] << "\t"
                 << setw(10) << roomNo[j] << "\t"
                 << setw(10) << Rprice[j] << "\t"
                 << setw(10) << Ddate[j][0] << "-"
                 << Ddate[j][b] << " December\n";

                        }
    cout << setw(126) << "-----------------------------------------------------------------------------------------\n";

}

class CuStaff {
    private :
        int s_id , s_pass , roomNo[n] , price ;
        int Ddates[s], cRduration[n][s];
        string roomType ;

    public :
```

```
274
275     public :
276
277 //      void Reservation_Report ();
278         void display();
279         void setDurationDates (int d[n][s]) {
280             for (int i = 0; i < n; i++) {
281                 for (int j = 0; j < s; j++) {
282                     cRduration[i][j] = d[i][j];
283                 }
284             }
285         }
286
287         void setRoomNo (int f[n]) {
288             for (int i = 0; i < n; i++) {
289                 roomNo[i] = f[n];
290             }
291         }
292
293         void displayDuration () {
294             for (int i = 0; i < n; i++) {
295                 for (int j = 0; j < s; j++) {
296                     cout << cRduration[i][j] << " ";
297                 } cout << endl;
298             }
299         }
300
301         int getAvailability (int ED[], int m, int fI) {
302             int count = 0;
303             for (int i = 0; i < m; i++)
304             {
305                 for (int j = 0; j < s; j++)
306                 {
307                     if (ED[i] == cRduration[fI][j])
308                     {
```

```
307                     if (ED[i] == cRduration[fI][j])
308                     {
309                         count ++;
310                     }
311
312                 }
313             }
314         return count;
315     }
316 /*
317     void displayRoomDets (string a[sd], string b[sd], string c[sd], string d[sd], string e[sd]) {
318         for (int i = 0; i < sd; i++) {
319             cout << "\n";
320             cout << setw(90) << a[i]
321                  << setw(20) << b[i]
322                  << setw(20) << c[i]
323                  << setw(20) << d[i]
324                  << setw(20) << e[sd];
325         }
326
327     }
328 */
329 };
330
331 void CuStaff :: display()
332 {
333     int roomT;
334     float tax = 0.10, service = 0.06 , charge = 0;
335
336     cout << "1.Standard Double Room \n";
337     cout << "2.Standard Triple Room \n";
338     cout << "3.Standard Family Room \n";
339     cout << "4.Standard Single Room \n";
340     cout << "5.Deluxe Double Room \n" ;
341
```

```
    switch(roomT)
    {
        case 1 :  charge = ( ( (tax + service) * 100.0 ) + 100.0); break;
        case 2 :  charge = ( ( (tax + service) * 100.0 ) + 150.0); break;
        case 3 :  charge = ( ( (tax + service) * 100.0) + 200.0); break;
        case 4 :  charge = ( ( (tax + service) * 100.0) + 65.0); break;
        case 5 :  charge = ( ( (tax + service) * 100.0) + 300.0); break;

    }



//  cout <<"\nTOTAL :" << "RM " << ;

    cout << endl <<endl << endl;
    cout << "-------------------------------------------------------"<<endl;
    cout << (setw(30)) << "ORDER SUMMARY" << endl;
    cout << "-------------------------------------------------------"<<endl;
    cout << "Thank you for choosing our hotel for your stay" << endl
         << "Here's the detail for your booking : " << endl << endl ;

    cout << "1.Standard Double Room \n";
                                    cout << "2.Standard Triple Room \n";
                                    cout << "3.Standard Family Room \n";
                                    cout << "4.Standard Single Room \n";
                                    cout << "5.Deluxe Double Room \n" ;
                                    cout<<endl;
    cout<< "Room Type  "<< setw(5) << ":"  << roomT << endl;
    cout<< "Taxes  " <<  setw(9) << ":" << (tax  * 100.0 ) << endl;
    cout<< "Service " << setw(8) << ":"  <<( tax  * 100.0 ) << endl;
    cout<< "Total Payment "<<setw(2) << ":" <<"RM" <<charge;

}
```

```
int SequenceSearch ( string search_key , string arr[s] )
{
    int p;
    int index = -1;
    for ( p = 0 ; p < s ; p++)
    {
        if ( search_key == arr[p] )
        {
            index = p;
            break;
        }
    }
    return index;
}

void readDets (string a[sd], string b[sd], string c[sd], string d[sd], string e[sd]) {
                                ifstream inp;
                                inp.open("RoomD.txt");
                                int q = 0;
                                while (!inp.eof())
                                {
                                    getline(inp,a[q],',');
                                    getline(inp,b[q],',');
                                    getline(inp,c[q],',');
                                    getline(inp,d[q],',');
                                    getline(inp,e[q]);
                                    inp.ignore();


                                //   cout << setw(88)<< Da << Db << Dc << Dd << De ;
                                 // q cout << endl;
                                    q++;

                                }
                                inp.close();
```

```
}

void displayRoomDets (string a[sd], string b[sd], string c[sd], string d[sd], string e[sd]) {
            for (int i = 0; i < sd; i++) {
                cout << "\n";
                cout << setw(30) << a[i]
                     << setw(20) << b[i]
                     << setw(20) << c[i]
                     << setw(25) << d[i]
                     << setw(20) << e[i];
            }

        }


int main () {
    Admin adm;
    Admin cus;
//  Node *first, *last;
    //first = last = NULL;
    int cI,cO;
    char d;
    int user, ch, ch4, chEd, chP, chAd, index = 0, index1 = -1, index2 = 0, roomNo[sz], RNo[sz], RDuration[sz][14];
    int ERNo, ERNo2, ch3, ERDuration[sz], ESDate, ELDate, EDDuration[sz], ED[sz];   // ERNo = edit room no, ERDuration = edit room duration, ESDate
    float RPrice[sz], EPrice, NDiscR, NDiscC;
    char chE, chC, ch2, RType[sz];  // RType = room type
    string Fname, Lname, pwd1, pwd2,pwd3, pwd4, DOB, gender, fId[6] , fpass[6] , cId, cId1 , cId2 ,  roomType[sz];
    string ch5;
    r :
    cout << "\t\t\t\t\t\t\t**************************************************\n"
         << "\t\t\t\t\t\t\t**************************************************\n"
         << "\t\t\t\t\t\t\t*                                                *\n"
         << "\t\t\t\t\t\t\t*       WELCOME TO HOTEL BAEBAE BOOKING SYSTEM   *\n"
         << "\t\t\t\t\t\t\t*                                                *\n"
         << "\t\t\t\t\t\t\t**************************************************\n"
```

```
451          << endl ;
452
453
454      cout << setw(88) <<"MAIN MENU\n"
455           << setw(89) <<"-----------\n"
456           << endl
457           << setw(87) << "1. Admin\n"
458           << setw(87) << "2.Customer\n"
459           << endl
460           << setw(95) << "Enter Your Choice: ";
461      cin >> user;
462      cout << "\n";
463
464      switch (user) {
465          case 1 : cout << setw(100) << "You have log in as Admin .\n"
466                        << setw(102) << "Press any key to continue .\n\n";
467                   cin >> ch5;
468                   here3 :
469                   cout << setw(112) << "----------------------------o-------------------------\n\n"
470                        << setw(90) << "<ADMIN>\n"
471                        <<setw(100) << "1. Manage room and price.\n"; //ezra
472                   cout << setw(94) << "2. Manage Discount.\n"; // suhada
473                   cout << setw(102) << "3. View reservation report.\n"; //sha
474                   cout << setw(83) << "4. End.\n\n"
475                        << setw(93) << "Enter Your Choice: ";
476                   cin >> chAd;
477                   cout << "\n" << setw(112) << "----------------------------o-------------------------\n\n";
478
479
480              //   cin.get();
481              //   system("cls");
482
483                   switch (chAd) {
484                      case 1 :    {
485                                  int total1, total2;
```

```
484                 case 1 :    {
485                             int total1, total2;
486                             adm.readFile();
487                             adm.readDurationFile();
488                             adm.getRoomType(RType);
489                             adm.getRoomNo(RNo);
490                             adm.getPrice(RPrice);
491                             adm.getDuration(RDuration);
492                             adm.details();
493
494                             cout << "\n" << setw(98) << "Do you wish to edit ? (Y/N)";
495                             cin >> chE;
496
497                             if (chE == 'Y' || chE == 'y') {
498                             cout << "\n" << setw(100) << "1. Change room availability.\n"
499                                  << setw(98) << "2. Change price per night.\n"
500                                  << setw(79) << "3. End\n\n"
501                                  << setw(90) << "Enter Your Choice: "  ;
502                             cin >> chEd;
503
504                                 switch (chEd) {
505                                 case 1 :
506                                             cout << setw(85) << "Room number ? ";
507                                             g :
508                                       //   cin.ignore();
509                                             cin >> ERNo;
510                                             adm.EditDuration(ERNo, RNo, ERDuration, index);
511
512                                             cout << setw(78) << "Room " << ERNo
513                                                  << "\n" << setw(83) << "Duration : ";
514
515                                       //  cout << setw(70);
516                                             for (int i = 0; i < s; i++) {
517                                                 cout << ERDuration[i] << "Dec, ";
518                                             }
```

```
517                                     cout << ERDuration[i] << "Dec, ";
518                                 }
519                                 cout << endl << endl;
520                                 cout << setw(105) << "Insert new available dates for room " << ERNo;
521                                 adm.readDurationFile();
522                                 cout << endl;
523                                 cout << setw(87) << "Starting date : ";
524                                 cin >> ESDate;
525                                 cout << setw(87) << "Last date : ";
526                                 cin >> ELDate;
527
528                                 for (int i = ESDate, z = 0; i <= ELDate; i++, ESDate++, z++) {
529                                     EDDuration[z] = ESDate;
530                                 }
531
532                                 adm.ChangeDuration(EDDuration, index);
533
534                                 cout << "\n" << setw(80) << "Room " << ERNo
535                                      << "\n" << setw(85) << "New Duration : \n";
536
537                                     cout << setw(87);
538                                 for (int i = 0; i < s; i++) {
539                                     cout << EDDuration[i] << "hb ";
540                                 }
541
542                                 cout << "\n" << setw(87) << "Make more changes for another room ? (Y/N)";
543
544                                 here2 :
545                                 cin >> chC;
546                                 if (chC == 'Y' || chC == 'y') {
547                                     cout << setw(87) << "Room number ? ";cin.ignore();
548                                     goto g;
549                                 }
550
551                                 else if (chC == 'N' || chC == 'n') {
```

```
550
551                                 else if (chC == 'N' || chC == 'n') {
552                                     goto here3;
553                                 }
554
555                                 else if (chC != 'Y' || chC != 'y' || chC != 'N' || chC != 'n')  {
556                                     cout << setw(87) << "Sorry, Unrecognized key. Please enter a valid key.";
557                                     goto here2;
558                                 }
559
560
561                                 break;
562
563                             case 2 :  here4 :
564                                 cout << setw(87) << "Room number ? ";
565                                 cin >> ERNo2;
566
567                                 for (int i = 0; i < n; i++) {
568                                     if (ERNo2 == RNo[i]) {
569                                         index2 = i;
570                                     }
571                                 }
572
573                                 cout << setw(87) << "Price for room " << ERNo2 << " per night : " << RPrice[index2];
574                                 cout << setw(87) << "\nNew price for room " << ERNo2 << " ? ";
575                                 cin >> EPrice;
576
577                                 adm.changePrice(EPrice, index2);
578                                 adm.getPrice(RPrice);
579                                 cout << "\n\nPrice for Room " << ERNo2 << " per night is " << RPrice[index2];
580                                 /*
581                                 cout << "Change another room price ? ";
582                                 here5 :
583                                 cin >> chP;
584
```

```
                    cin >> chP;

                    if (chC == 'Y' || chC == 'y')
                        goto here4;

                    else if (chC != 'Y' || chC != 'y' || chC != 'N' || chC != 'n')  {
                        cout << "Sorry, Unrecognized key. Please enter a valid key.";
                        goto here5;
                    }

                    else if (chC == 'N' || chC == 'n') {
                        goto here3;3
                        }*/
                    break;

                case 3 :    break;
            }
        }

        else
            goto here3;
        break;}

case 2 :{   cout << "Discounts are given based on type of customer (Regular or new customer) "
            << "\nand amount of room booked.\n";

            adm.setDPriceR();
            adm.setDPriceC();
        float CustDisc = adm.DPriceC;
        float RoomDisc = adm.DPriceR;

        cout << "\nDiscount for regular customer : " << CustDisc << "%";
        cout << "\nDiscount for customer who booked 5 rooms and above : " << RoomDisc << "%";

        h :
```

```
        h :
        cout << "\nDo you wish to make any changes ? (Y/N)";
        cin >> ch2;

        if (ch2 == 'Y' || ch2 == 'y') {
            cout << "1. Change discount for regular customer."
                 << "\n2. Change discount for customer who booked 5 rooms and above.\n";

            cin >> ch3;

            if (ch3 == 1)
            {
                cout << "\nNew discount for regular customer : ";
                cin >> NDiscC;

                adm.changeDiscCust(NDiscC);

                cout << "\n=== CONFIRMATION ===\n"
                     << "\nNew discount for regular customer : " << adm.getCustDiscount();
                goto h;
              }

            else if (ch3 == 2)
            {
                cout << "\nNew discount for customer who booked 5 rooms and above : ";
                cin >> NDiscR;

                adm.changeDiscRoom(NDiscR);

                cout << "\n=== CONFIRMATION ===\n"
                     << "\nNew discount for regular customer : " << adm.getRoomDiscount();
                goto h;
            }
        }
```

```
        else if (ch2 == 'N' || ch2 == 'n')
        {
            goto here3;

        }

        else if (ch2 != 'Y' || ch2 != 'y' || ch2 != 'N' || ch2 != 'n')
        {
            cout << "\nSorry, Unrecognized key. Please enter a valid key.";
        }
        break;}

case 3 :    cout << "\n==== Template for Reservation report ====\n\n";
            adm.Reservation_Report();


            cout << "\nEnter 1 to continue .";
            here7 :
            cin >> ch4;

            if (ch4 == 1)
                goto here3;

            else
            {
                cout << "\nPlease enter the right key .\n";
                goto here7;
             }


            break;


case 4 :    cout << setw(100) << "You are exiting as admin ...\n";
            cin.ignore();
```

```
685                 case 4 :    cout << setw(100) << "You are exiting as admin ...\n";
686                             cin.ignore();
687                             cin.get();
688                             system("cls");
689                             goto r;
690
691                 }break;
692
693
694
695         case 2 :
696
697                 cout << "\t\t\t\t\t\t\t**********************************************************\n"
698                      << "\t\t\t\t\t\t\t**********************************************************\n"
699                      << "\t\t\t\t\t\t\t*                                                        *\n"
700                      << "\t\t\t\t\t\t\t*          THANK YOU FOR CHOOSING OUR HOTEL              *\n"
701                      << "\t\t\t\t\t\t\t*                                                        *\n"
702                      << "\t\t\t\t\t\t\t**********************************************************\n"
703                      << "\t\t\t\t\t\t\t**********************************************************\n"
704                      << endl
705                      << setw(93) << "Have you register before?\n"
706                      << setw(86) <<"1. Yes\n"
707                      << setw(93) <<"2. New Member\n" << endl
708                      << setw(86) <<"Enter : " ;
709                 cin >> ch;
710                 cout << endl;
711
712                 ifstream xnp;
713                     xnp.open("cID.txt");
714
715                          int i = 0;
716                          while (i < 5) {
717                            xnp >> fId[i];
718
719                            i++;
720                          }
721                         xnp.close();
722
723             ifstream anp;
724                 anp.open("cpass.txt");
725
726                          int y = 0;
727                          while (y < 5){
728                            anp >> fpass[y];
729
730                            y++;
731                          }
732                         anp.close();
733
734
735             if( ch == 2 ) // NEW USER
736             {
737                 here :
738                 cout << setw(93) << "=== REGISTERATION ===\n" <<endl ;
739                 cout << setw(90)  << "First Name : ";
740                 cin >> Fname;
741
742                 cout << setw(90) << "Last Name : ";
743                 cin >> Lname;
744
745                 cout << setw(90)  << "User ID : ";
746                 cin >> cId;
747
748                 ofstream onp;
749                 onp.open("cID.txt");
750                 for (int j = 0; j < 5; j++)
751                 {
752                    onp << fId[j] << "\n";
```

```
                    }
                     onp << cId ;
                     onp.close();


                    cout << setw(90) << "Password : ";
                    cin >> pwd1;

                    cout << setw(90) << "Confirm Password : ";
                    cin >> pwd2;

                    if ( pwd1 == pwd2 )
                    {
                        ofstream unp;
                        unp.open("cpass.txt");
                        for (int k = 0; k < 5; k++)
                        {
                            unp << fpass[k] << "\n";

                        }
                        unp << pwd2 ;
                        unp.close();

                        cout << setw(90) << "Gender : ";
                        cin >> gender;

                        cout << setw(90) << "Date of Birth : ";
                        cin >> DOB;
                        cout << endl ;
                    }

                    else
                    {
                        cout << setw(90) << "INVALID PASSWORD\n"
                             << setw(90) << "Please enter password again\n"
```

```
                     cin >> pwd2;

                     while ( pwd1 != pwd2 )
                     {
                         cout << setw(90) << "INVALID PASSWORD\n"
                              << setw(90) << "Please enter password again\n"
                              << setw(90) << "confirm Password : " ;

                         cin >> pwd2;

                         ofstream unp;
                         unp.open("cpass.txt");
                         for (int k = 0; k < 5; k++)
                         {
                             unp << fpass[k] << "\n";

                         }
                         unp << pwd2 ;
                         unp.close();
                     }

                     cout << setw(90) << "Gender : ";
                     cin >> gender;

                     cout << setw(90) << "Date of Birth : DD/MM/YY";
                     cin >> DOB;
                     cout << endl ;
                 }


                cout<< "\t\t\t\t\t\t\t**********************************************************\n"
                    << "\t\t\t\t\t\t\t*                                                        *\n"
                    << "\t\t\t\t\t\t\t*                        LOGIN                           *\n"
                    << "\t\t\t\t\t\t\t*                                                        *\n"
```

```
                         << setw(90) << "User ID : ";

                    cin >> cId1;

                    if ( cId1 == cId )
                    {
                        // searching id
                        SequenceSearch ( cId1 , fId);

                    }

                    else
                    {
                        cout << setw(90) << "INVALID USER ID " << endl
                             << setw(90) << "Please enter user ID again : ";
                        cin  >> cId1 ;

                        while ( cId1 != cId )
                        {
                            cout << setw(90) << "INVALID USER ID " << endl
                                 << setw(90) << "Please enter user ID again : ";
                            cin  >> cId1 ;
                        }
                    }

                    cout << setw(90) << "Password :";
                    cin >> pwd3;
                    cout << endl;

                if ( pwd3 == pwd2 )
                    {
                        // searching pass
                        SequenceSearch ( pwd3 , fpass);
                    }

                    else
```

```
                    {
                        cout << setw(90) << "INVALID PASSWORD\n"
                             << setw(90) << "Please enter password again\n"
                             << setw(90) << "confirm Password : " ;

                        cin >> pwd3;

                        while ( pwd3 != pwd2 )
                        {
                            cout << setw(90) << "INVALID PASSWORD\n"
                                 << setw(90) << "Please enter password again\n"
                                 << setw(90) << "confirm Password : " ;

                            cin >> pwd3;
                        }

                    }

                }

            else // USER
                {
                    cout<< "\t\t\t\t\t\t\t**********************************************************\n"
                        << "\t\t\t\t\t\t\t*                                                        *\n"
                        << "\t\t\t\t\t\t\t*                          LOGIN                         *\n"
                        << "\t\t\t\t\t\t\t*                                                        *\n"
                        << "\t\t\t\t\t\t\t**********************************************************\n"
                        << setw(89) << "User ID : ";

                    cin >> cId2 ;
                    cout << endl;
                    index1 = SequenceSearch ( cId2 , fId);
                    if ( index1 != -1 )
                    {
                    cout << setw(88) << "Password :";
                    cin >> pwd4;
                    index1 = SequenceSearch ( pwd4 , fpass);
                    if( index1 != -1 )
                    {
                        goto book;
                    }
                        else
                    {
                        cout << setw(90) << "UKNOWN PASSWORD" << endl
                             << setw(90) << "Please register : "
                             << setw(90) << endl;
                        goto here;

                    }
                    }
                    else
                    {
                        cout << setw(90) << "UKNOWN USER ID" << endl
                             << setw(90) << "Please register before login " << endl  ;
                        goto here;

                    }

                }


                book :

                cout << setw(90) << "Please enter your check-in and check-out date .\n";

                cout << setw(90) << "Check-in date (Day) : ";
                cin >> cI;
                cout << endl;
                cout << setw(90) << "Check-out date (Day) : ";
                cin >> cO;
```

```
932                 cout << setw(90) << "Check-out date (Day) : ";
933                 cin >> cO;
934
935                 int tot, tot2;
936                 int cRDuration[n][s], cRNo[n], baruper;
937                 float cRPrice[n];
938                 char cRType[n];
939
940
941                 Admin cus;
942                 cus.readFile();
943                 cus.readDurationFile();
944                 cus.getRoomType(cRType);
945                 cus.getRoomNo(cRNo);
946                 cus.getPrice(cRPrice);
947                 cus.getDuration(cRDuration);
948                 cus.details();
949                 CuStaff cust;
950                 cust.setDurationDates(cRDuration);
951             //  cust.displayDuration();
952                 queue qu;
953             //  CuStaff dets;
954
955                 cout <<setw(90)<< "A is deluxe single"<<endl
956                      <<setw(90)<< "B is deluxe double"<<endl
957                      <<setw(90)<< "C is standard single"<<endl
958                      <<setw(90)<< "D is standard double"<<endl
959                      <<setw(90)<< "E is standard triple";
960
961
962                 int mKira = 0, pKira = 0, count[n];
963                 //generate dates in between check-in date and check-out date
964                 for (int i = cI, z = 0; i <= cO; i++, cI++, z++) {
965                     ED[z] = cI;
```

```
967             }
968
969             qu.createQueue();
970             for (int i = 0; i < n; i++) {
971                 count[i] = cust.getAvailability(ED, mKira+1, i);
972                 if (count[i] == (mKira + 1))
973                 {
974                     cout << setw(90);
975                     cout << "\nRoom " << cRNo[i] << " is available" << endl;
976                     cout << setw(30);
977                     qu.enQueue(cRNo[i]);
978                 }
979
980
981
982             }
983             //qu.showFront();
984             //qu.showBack();
985             /*for(int i = 0; i < mKira+1; i++)
986             {
987                 qu.deQueue();
988             }*/
989
990             cout<< endl;
991             cout<< endl;
992             cout<< setw(90) << "Room that available for booking : ";
993             qu.display();
994             cout<<endl;
995
996             for (int i = 0; i < n; i++) {
997                 if (count[i] == (mKira + 1))
998                     pKira ++;
999             }
1000
1001            //cout << "\nYou are booking for " << pKira << " days\n";
```

```
1003
1004            /*  for (int i = 0; i < n; i++) {
1005                    cout << "Count for room " << cRNo[i] << " is " << count[i] << "\n";
1006
1007                }*/
1008
1009
1010                            cout << endl;
1011                            cout << "\t\t\t\t\t\t\t**********************************************************\n"
1012                                 << "\t\t\t\t\t\t\t*                                                        *\n"
1013                                 << "\t\t\t\t\t\t\t*                  ROOM DETAIL                           *\n"
1014                                 << "\t\t\t\t\t\t\t*                                                        *\n"
1015                                 << "\t\t\t\t\t\t\t**********************************************************\n";
1016
1017
1018                            //ROOM DETAILS
1019                            string Da[sd], Db[sd], Dc[sd], Dd[sd], De[sd];
1020                            readDets(Da, Db, Dc, Dd, De);
1021                            displayRoomDets(Da, Db, Dc, Dd, De);
1022                            char books;
1023
1024                            // CONFIRMATION
1025                            CuStaff obj;
1026
1027                            cout << endl;
1028                            cout << "Confirm to proceed ? (Y/N)\n";
1029                            cin >> d;
1030
1031                            cout << endl;
1032                            if(d == 'Y' || d == 'y'){
1033
1034
1035                                obj.display();
1036                                cout << "\nThank you for your purchase! \n";
1037                                cin.ignore();
```

```
1030
1031                            cout << endl;
1032                            if(d == 'Y' || d == 'y'){
1033
1034
1035                                obj.display();
1036                                cout << "\nThank you for your purchase! \n";
1037                                cin.ignore();
1038                                cin.get();
1039                                system("cls");
1040                                goto r;
1041
1042                            }
1043                            else
1044                            {
1045                                cout << "Back to booking ? (Y/N) ";
1046                                cin >> books;
1047                                if(books == 'Y' || books == 'y')
1048                                    goto book;
1049
1050                                else
1051                                {
1052                                    cout << "Thank you!";
1053                                cin.ignore();
1054                                cin.get();
1055                                system("cls");
1056                                goto r;
1057                                }
1058
1059                            }
1060
1061        }
1062
1063        return 0;
1064    }
```

5.2 References

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