Software Requirements

Dev C++ and GNU GCC Compiler

Methodology

Program includes the corner for the administration and for the user simultaneously. For the Admin the administrator password should be there after that an option to the administrator will

Be opened which are as follows:

1.) Add customer

2.) Update customer

3.) Display customer

4.) Delete customer

5.) Room details

6.) Room allotment

7.) Checkout/Generate bill

8.) Exit

System Implementation Code

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#include<string.h>

void login_Page();                                          //Display Login
Page void main_Page();                                           //Main
Options Page
void insert(char* a);                                       //Insert data in
linked list
void clear();                                               //Clear whole
linked list
void get_Data2(char a[]);                                   //Get data from
permanent stored file
void count(char a[],int i);                                 //Count allotted
and remaining rooms
void del(char rno[], char a[]);                             //Delete from file
void save_Customer_details(char rno[][4],int n,int a);      //Save Customer
Details to a File
void save_Data(char rno[], char a[], char b[]);             //Save Room Data
to a File
```

```
void display(char a[]);                                    //Display Elements
of Linked List
void check_In(int k);                                      //For Check-In a
Customer
void rem_Rooms(int a);                                     //Display
Remaining Rooms
void print_Info_Rooms(int a);                              //Display Room
Options Menu
void print_Rooms();                                        //Room Options
Menu
void check_Out();                                          //Check Out and
Calculate Payable Amount


//Code for Login Page Begin
 int
i=0;
char user[10],pass[10];

struct details
{
    char data[10];
    struct details *next;}*start,*temp,*end;

void ins(char *d) {
    temp = (struct details *)malloc(sizeof(struct details));
strcpy(temp->data,d);     temp->next = NULL;     if(start ==
NULL) {         start = temp;         end = start;}     else
{
        end->next = temp;
end = temp;}
}  void pr_Back(int
a) {
system("@cls");
    printf(" \t \t \t Welcome To Hotel TRANSYLVANIA");
if(a == 1)
        printf("\n\n\t\t\t\t   LOG-IN");
else
        printf("\n\n\t\t\t\t   SIGN-UP");
printf("\n\n \t \tEnter Username: %s\n",user);
printf(" \t \tEnter Password: ");

}

char* get_Pass(int a) {
char c,pswd[10];     int
j=0,k;     while(1) {
c=getch();         if(c ==
13)             break;
if(c == 8) {             j--
;             pswd[j] =
NULL;
pr_Back(a);
for(k=0;k<j;k++)
printf("*");
continue;}         pswd[j] =
c;         printf("*");
```

```
j++;}     pswd[j] = '\0';
return pswd;
}  void signUp() {
system("@cls");
FILE *l;
    l = fopen("loginData.txt", "a");     printf("
\t   \t   \t   Welcome   To   Hotel   Asendra");
printf("\n\n\t\t\t\t   SIGN-UP");     printf("\n\n
\t \tEnter Username: ");       scanf("%s",user);
printf("     \t     \tEnter     Password:     ");
strcpy(pass,get_Pass(2));
fprintf(l,"%s_%s,",user,pass);     fclose(l);
    printf("\n \t \tSigned Up Successfully.");
printf("\n\n \t \tPress Enter To Continue...");
char c = getch();     if(c == 13)
login_Page();
}  void
get_Data() {
FILE *l;
    l = fopen("loginData.txt", "r");
char s[100];     fscanf(l,"%s,",s);
fclose(l);     char *ptr =
strtok(s,"_,");     while(ptr !=
NULL) {     ins(ptr);     ptr =
strtok(NULL,"_,");     i++;}
}  void login() {
int j=0;
system("@cls");
    printf(" \t \t \t Welcome To Hotel Asendra");
printf("\n\n\t\t\t\t   LOG-IN");     printf("\n\n
\t \tEnter Username: ");     scanf("%s",user);
    printf(" \t \tEnter Password: ");
strcpy(pass,get_Pass(1));
    for(temp=start; temp->next!=NULL; temp=temp->next)
            if(strcmp(temp->data,user) == 0 && strcmp(temp->next->data,pass) ==
0) {
system("@cls");
main_Page();
return;}
    printf("\nUsername/Password is incorrect.\n");
}
void print_Info_Log(int a) {
system("@cls");
    printf(" \t \t \t Welcome To Hotel Asendra");
printf("\n\n\t\t\t\tChoose An Option: ");     if(a
== 1) {
        printf("\n\t\t\t\t+-----------+\n");
printf("\t\t\t\t| 1. LOG-IN |");
printf("\n\t\t\t\t+-----------+\n");
printf("\t\t\t\t2. SIGN-UP\n");}     else {
        printf("\n\t\t\t\t1. LOG-IN");
printf("\n\t\t\t\t+------------+\n");
printf("\t\t\t\t| 2. SIGN-UP |");
printf("\n\t\t\t\t+------------+\n");}
}  void login_Page() {
get_Data();     char c;     int
k = 1;     print_Info_Log(1);
while(1) {         c = getch();
```

```
if(c == '1') {             k =
1;
print_Info_Log(1);}
else if(c == '2') {
k = 2;
print_Info_Log(2);}
else if(c == 13) {
if(k == 1)
login();             else if (k
== 2)
signUp();}         else
            printf("\n \t \tINVALID INPUT\n");}
}

//Code for Login Page End

//Code for Main Page Begin
 char al[] = "AllottedRooms.txt", rr[] = "RemainingRooms.txt", cd[4][100] =
{"CustomerDetails1.txt","CustomerDetails2.txt","CustomerDetails3.txt","CustomerDet
ails4.txt"};
int countal[4], countrm[4];

struct node {     char
rno[5];     struct
node *next;
};
struct node *start1, *temp2, *end1, *temp1;
 struct  customer_Details
{          char  name[20];
char address[100];
    char mob_No[11],age[3],no_Of_Persons[2],stay[2];
}cusdet;
void insert(char* a) {
    temp2 = (struct node *)malloc(sizeof(struct node));
strcpy(temp2->rno,a);     temp2->next = NULL;
     if(start1 == NULL) {
start1 = temp2;
end1 = start1;}     else {
end1->next = temp2;
end1 = temp2;}
}  void clear() {     temp2
= start1;     while(temp2 !=
NULL) {          temp1 =
temp2->next;
free(temp2);          temp2 =
temp1;
    }     start1 =
NULL;
}
void get_Data2(char a[]) {
clear();     FILE *l;     l =
fopen(a, "r");     char
s[1000];
fscanf(l,"%s",s);
fclose(l);      char *p;
p = strtok(s,",");
while(p!=NULL) {
```

```
insert(p);          p =
strtok(NULL,",");
    }
}  void count(char a[],int
i) {     get_Data2(a);
int d;      for(d=0;d<4;d++)
{          countal[d] = 0;
countrm[d] = 0;
    }
    for(temp2=start1;temp2!=NULL;temp2=temp2->next) {
d = temp2->rno[0]-'0';          if(i)
countal[d-1] += 1;          else
            countrm[d-1] += 1;
    }
}
void del(char rno[], char a[]) {
get_Data2(a);      temp2 = start1;
if(strcmp(start1->rno,rno) == 0) {
start1 = start1->next;
free(temp2);
    }
else {
        while(strcmp(temp2->rno,rno) != 0) {
temp1 = temp2;              temp2 = temp2-
>next;              if(temp2 == NULL) {
return;
            }
}
        temp1->next = temp2->next;
free(temp2);
    }
     FILE *l;      l =
fopen(a, "w");
fprintf(l,"%s","");
fclose(l);      l =
fopen(a, "a");
    for(temp2 = start1;temp2 != NULL;temp2 = temp2->next)
fprintf(l,"%s,",temp2->rno);      fclose(l);
}
void save_Customer_details(char rno[][4],int n,int a) {
printf("\nEnter Name: ");      scanf("%s", cusdet.name);
printf("\nEnter Address: ");      scanf("%s",
cusdet.address);      printf("\nEnter Mobile Number: ");
scanf("%s", cusdet.mob_No);      printf("\nEnter Age:
");      scanf("%s", cusdet.age);      printf("\nEnter
Number of Persons: ");      scanf("%s",
cusdet.no_Of_Persons);      printf("\nEnter Number of
days: ");      scanf("%s", cusdet.stay);
    int i;      FILE *l;      l =
fopen(cd[a-1], "a");
for(i=0;i<n;i++) {
fprintf(l,"%s_",rno[i]);
    }
fprintf(l,":%s_%s_%s_%s_%s_%s,",cusdet.name,cusdet.stay
,cusdet.address,cusdet.mob_
No,cusdet.age,cusdet.no_Of_Persons);
fclose(l);
}
```

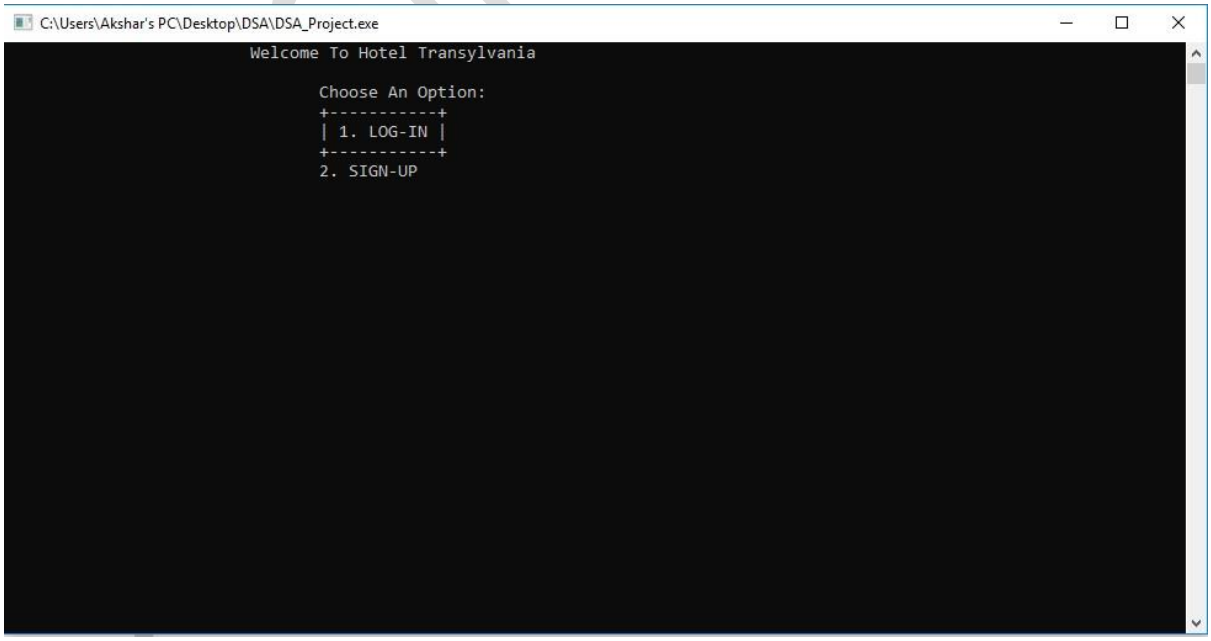
```
void save_Data(char rno[], char a[], char b[]) {
FILE *l;     l = fopen(a, "a");
fprintf(l,"%s,",rno);     fclose(l);
del(rno, b);
}  void display(char
a[]) {     get_Data2(a);
    for(temp2=start1;temp2!=NULL;temp2=temp2->next)
printf("%s ",temp2->rno);     printf("\n");
}  void check_In(int
k) {     count(rr,0);
int i,j,b,d;
    printf("\nEnter Number of Rooms: ");
scanf("%d",&b);     if(b<=countrm[k-1])
{     char rar[b][4];
printf("\nAlloted Rooms:\n");
for(i=0;i<b;i++) {
get_Data2(rr);         temp2=start1;
d = temp2->rno[0]-'0';
while(d!=k) {             temp2=temp2-
>next;             d = temp2->rno[0]-
'0';
        }
        strcpy(rar[i],temp2->rno);
printf("%s\n",rar[i]);         save_Data(rar[i],al,rr);
    }
    save_Customer_details(rar,b,k);
system("@cls");
    printf("Data Saved Successfully\n\n\nPress any key to continue...");
if(getch())         main_Page();     } else {
        printf("Not enough rooms\n");
    }
}  void rem_Rooms(int
a) {     count(rr,0);
int i,d=0;
for(i=0;i<4;i++)
d+=countrm[i];
    printf("\n\t\tRemaining Rooms on %dth floor: %d",a,countrm[a-1]);
printf("\n\n\t\tTotal Remaining Rooms: %d\n",d); }
 void print_Info_Rooms(int a)
{     system("@cls");
    printf(" \t \t \t Welcome To Hotel Asendra");
printf("\n\n\t\t\t\tSelect Room Type: ");     if(a
== 1) {
       printf("\n\t\t\t\t+-----------+\n");
printf("\t\t\t\t| 1. Normal |");
printf("\n\t\t\t\t+-----------+\n");
printf("\t\t\t2. Deluxe\n");
printf("\t\t\t3. Super Deluxe\n");
printf("\t\t\t4. Suite\n");}     else if(a == 2)
{         printf("\n\t\t\t\t1. Normal");
printf("\n\t\t\t\t+-----------+\n");
printf("\t\t\t| 2. Deluxe |");
printf("\n\t\t\t\t+-----------+\n");
printf("\t\t\t3. Super Deluxe\n");
printf("\t\t\t4. Suite\n");}     else if(a == 3)
{         printf("\n\t\t\t\t1. Normal");
printf("\n\t\t\t\t2. Deluxe");
printf("\n\t\t\t\t+-----------------+\n");
```

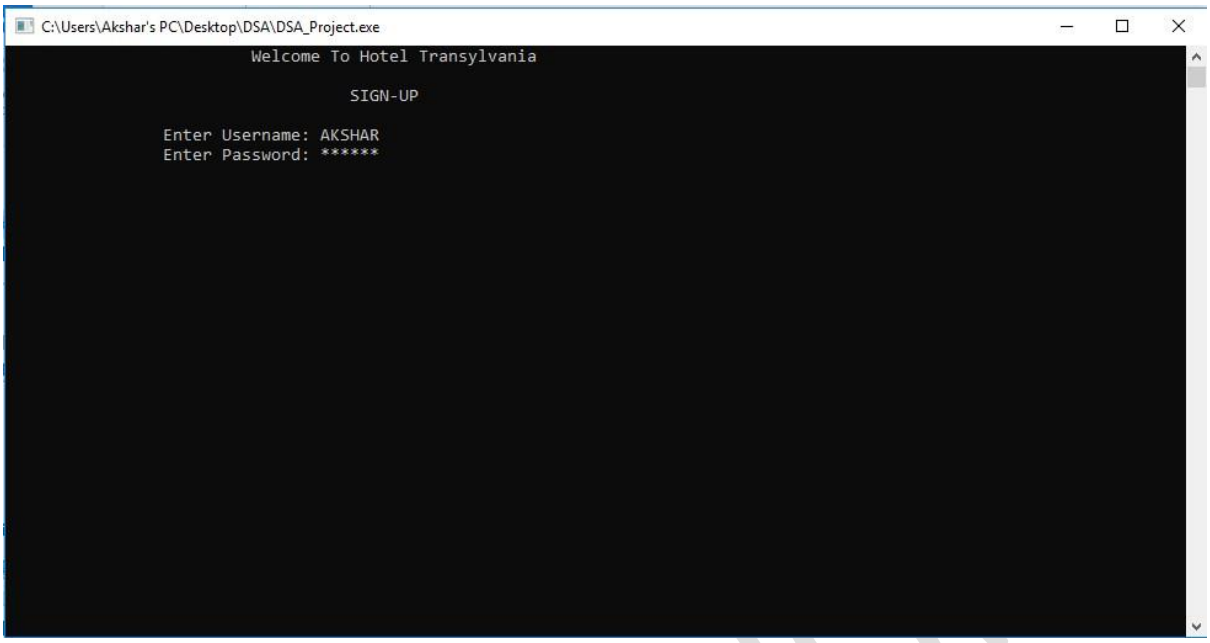
```
printf("\t\t\t\t| 3. Super Deluxe |");
printf("\n\t\t\t\t+----------------+\n");
printf("\t\t\t\t4. Suite\n");}     else if(a == 4)
{         printf("\n\t\t\t\t1. Normal");
printf("\n\t\t\t\t2. Deluxe\n");
printf("\t\t\t\t3. Super Deluxe");
printf("\n\t\t\t\t+----------+\n");
printf("\t\t\t\t| 4. Suite |");
printf("\n\t\t\t\t+----------+\n");}
}  void print_Rooms() {     int
k = 1;     print_Info_Rooms(1);
rem_Rooms(1);     while(1) {
char c = getch();         if(c
== '1') {             k=1;
print_Info_Rooms(1);
rem_Rooms(1);         } else if
(c == '2') {             k=2;
print_Info_Rooms(2);
rem_Rooms(2);         } else if
(c == '3') {             k=3;
print_Info_Rooms(3);
rem_Rooms(3);         } else if
(c == '4') {             k=4;
print_Info_Rooms(4);
rem_Rooms(4);         } else
if(c == 13) {
check_In(k);
        }
else{
            printf("\n \t \tINVALID INPUT\n");
        }
    }
}  void check_Out() {     float
charge = 2000;     printf("Enter
room number: ");     char r[4];
scanf("%s",r);     int f = r[0]-
'0';
     FILE *l;     l =
fopen(cd[f-1],"r");
char s[1000];
fscanf(l,"%s",s);
fclose(l);

    char *p,d[1000][1000],rn[100][100],c[10][1000];
int i=0,j,k=0,z=0,x;     p = strtok(s,",");
while(p!=NULL) {         strcpy(d[i],p);
i++;
        p = strtok(NULL,",");
    }     for(j=0;j<i;j++) {
char *p;         p =
strtok(d[j],":");
while(p!=NULL) {
if(isalpha(p[0])) {
strcpy(c[k],p);k++;
            } else {
                strcpy(rn[z],p);z++;
            }
            p = strtok(NULL,":");
```

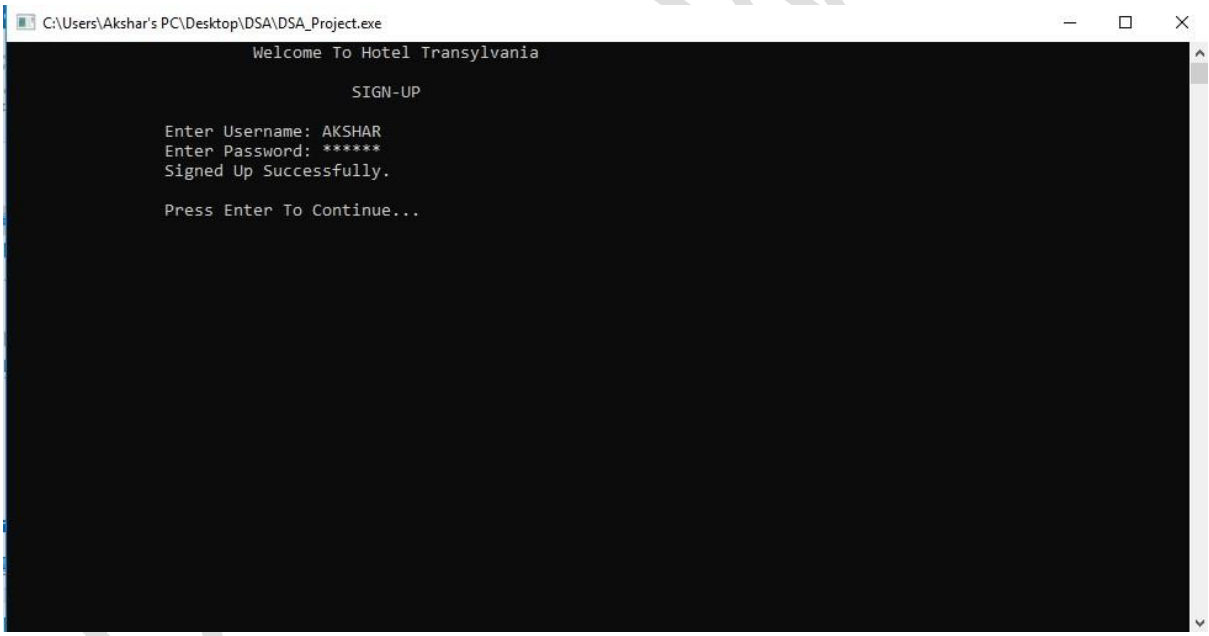
```
        }     }     for(j=0;j<z;j++) {
int w = 0;          char *p,tmp[100];
strcpy(tmp,rn[j]);          p =
strtok(rn[j],"_");
while(p!=NULL) {
if(strcmp(p,r)==0) {
char *pr;                   pr =
strtok(c[j],"_");
system("@cls");
printf("Name: %s\n",pr);
pr = strtok(NULL,"_");
                printf("Amount Due: %.2f\n",(*pr-'0')*charge);
l = fopen(cd[f-1],"w");                  fprintf(l,"");
fclose(l);                  l = fopen(cd[f-1],"a");
for(x=0;x<k;x++) {                      if(x!=j) {
                        fprintf(l,"%s:%s,",rn[x],c[x]);
                    }               }
w = 1;              }             if(w == 1)
{                  int h=0;
char b[5];
for(x=0;x<strlen(tmp);x++) {
if(tmp[x]!='_') {
b[h] = tmp[x];                          h++;
} else {                            h = 0;
save_Data(b,rr,al);
                    }
}
return;             }
            p = strtok(NULL,"_");
        }     }
system("@cls");
printf("\n\nData not found");
return;
}
  void print_Info_Menu(int a)
{     system("@cls");
    printf(" \t \t \t Welcome To Hotel Asendra");
printf("\n\n\t\t\t\tChoose An Option: ");     if(a
== 1) {
        printf("\n\t\t\t\t+------------+\n");
printf("\t\t\t\t| 1. CheckIn |");
printf("\n\t\t\t\t+------------+\n");
printf("\t\t\t2. CheckOut\n");
printf("\t\t\t3. Exit\n");}     else if(a ==
2) {         printf("\n\t\t\t\t1. CheckIn");
printf("\n\t\t\t\t+-------------+\n");
printf("\t\t\t\t| 2. CheckOut |");
printf("\n\t\t\t\t+-------------+\n");
printf("\t\t\t3. Exit\n");}     else if(a ==
3) {         printf("\n\t\t\t\t1. CheckIn\n");
printf("\t\t\t2. CheckOut");
printf("\n\t\t\t\t+---------+\n");
printf("\t\t\t\t| 3. Exit |");
printf("\n\t\t\t\t+---------+\n");}
}  void main_Page() {
system("@cls");     int k
= 1;
print_Info_Menu(1);
```

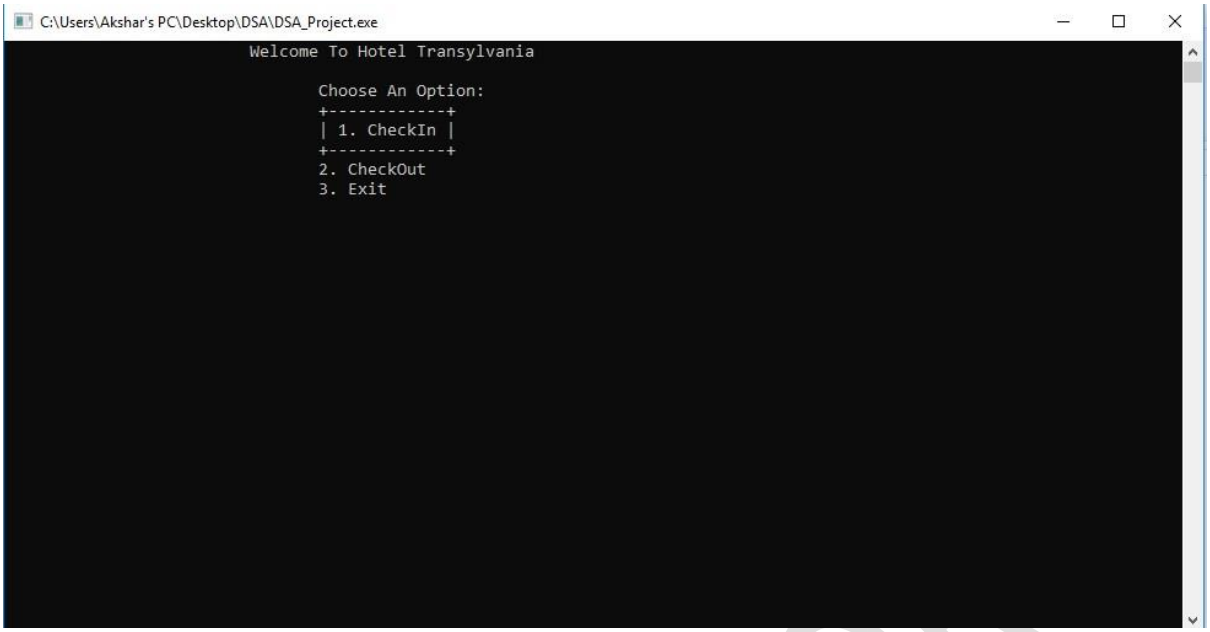
```
while(1) {          char c
= getch();          if(c
== '1') {
k=1;
            print_Info_Menu(1);
} else if (c == '2') {
k=2;
            print_Info_Menu(2);
} else if (c == '3') {
k=3;
            print_Info_Menu(3);
} else if(c == 13) {
if(k == 1)
print_Rooms();              else
if(k == 2)
check_Out();              else
exit(0);
        }
else{
            printf("\n \t \tINVALID INPUT\n");
        }
    }
}

//Code for Main Page End
 void main() {
login_Page();
}
```

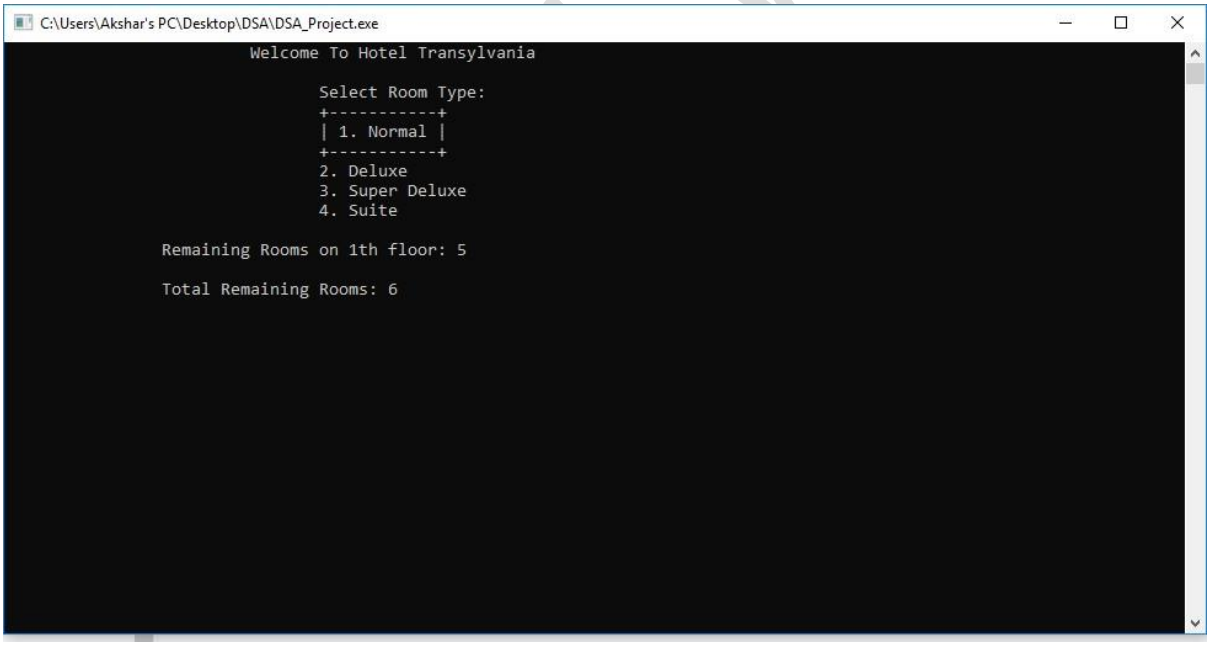
Results and discussion:-

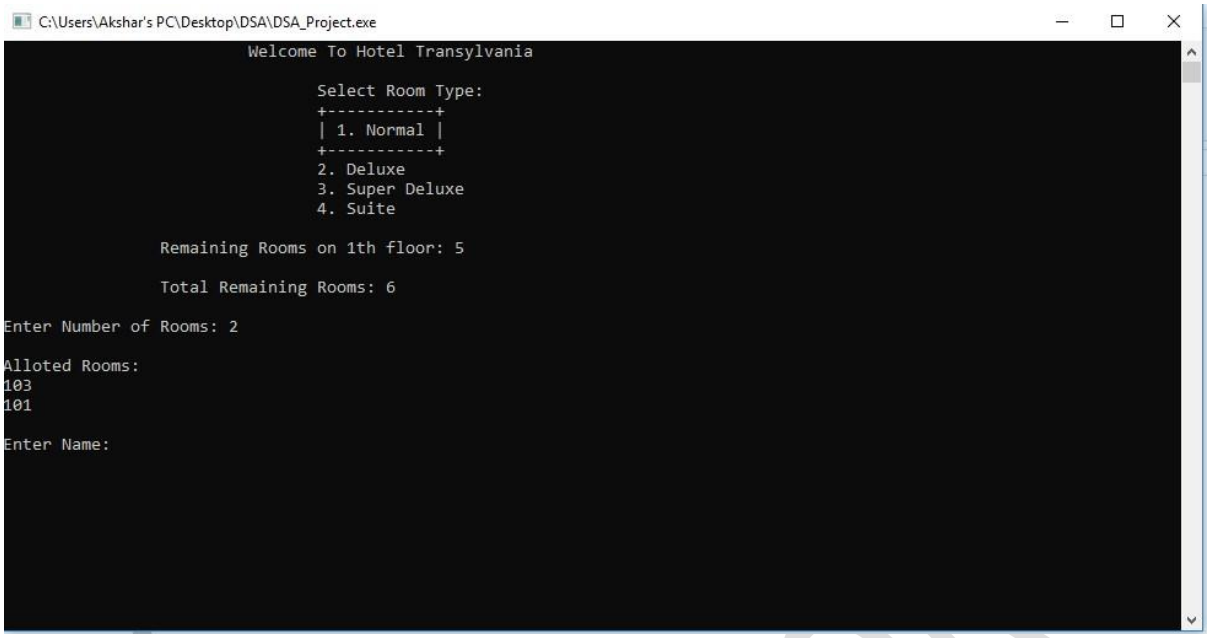


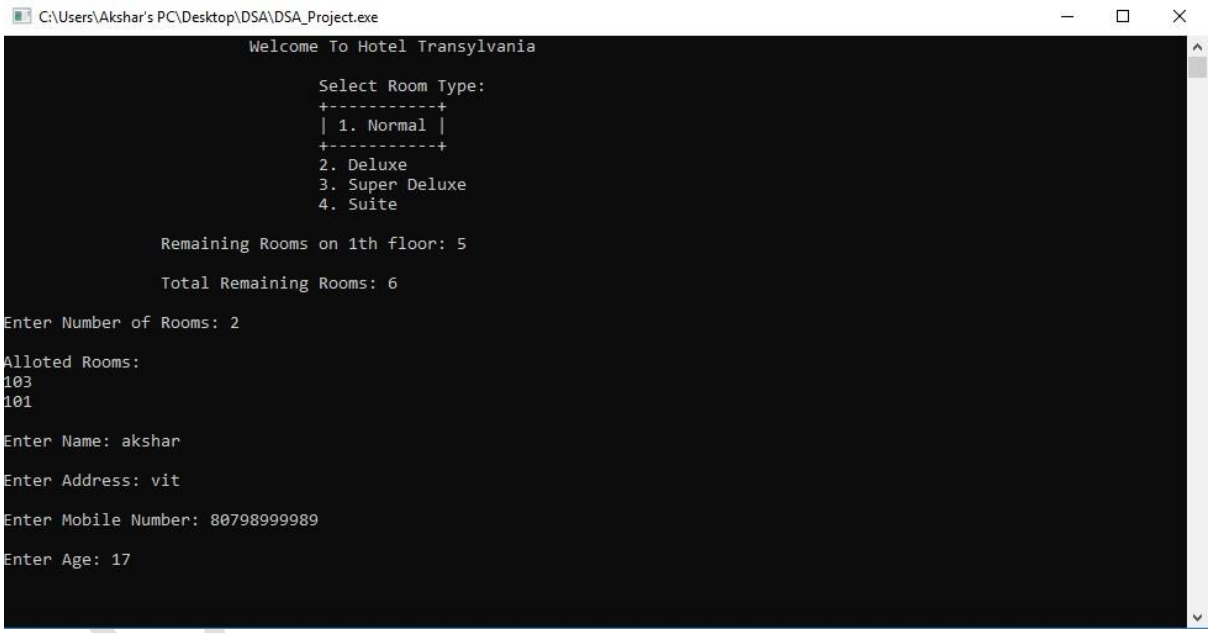

C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Welcome To Hotel Transylvania
SIGN-UP
Enter Username: AKSHAR
Enter Password: ******

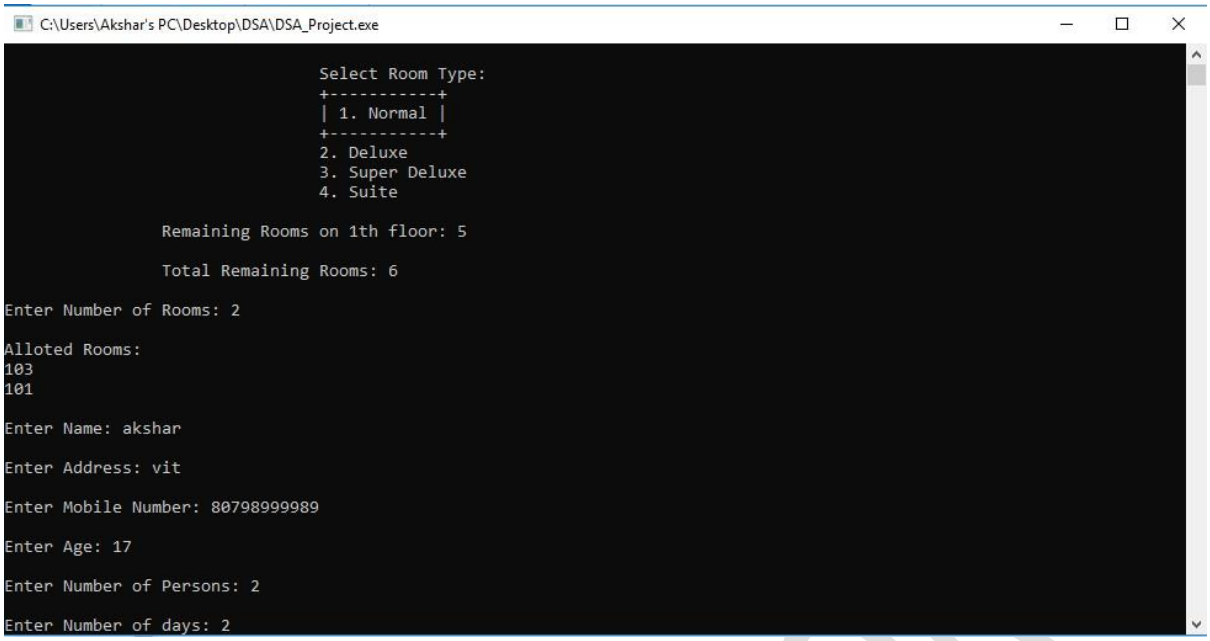

C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Welcome To Hotel Transylvania
SIGN-UP
Enter Username: AKSHAR
Enter Password: ******
Signed Up Successfully.
Press Enter To Continue...

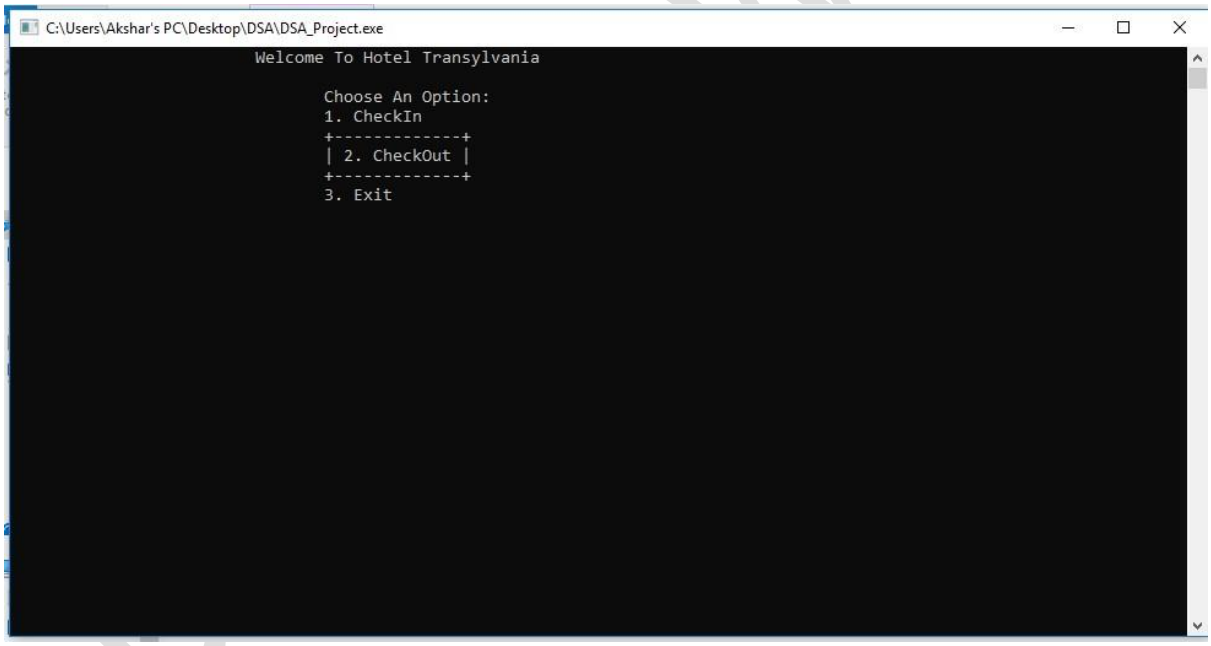

C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Welcome To Hotel Transylvania
Choose An Option:
+------------+
| 1. CheckIn |
+------------+
2. CheckOut
3. Exit

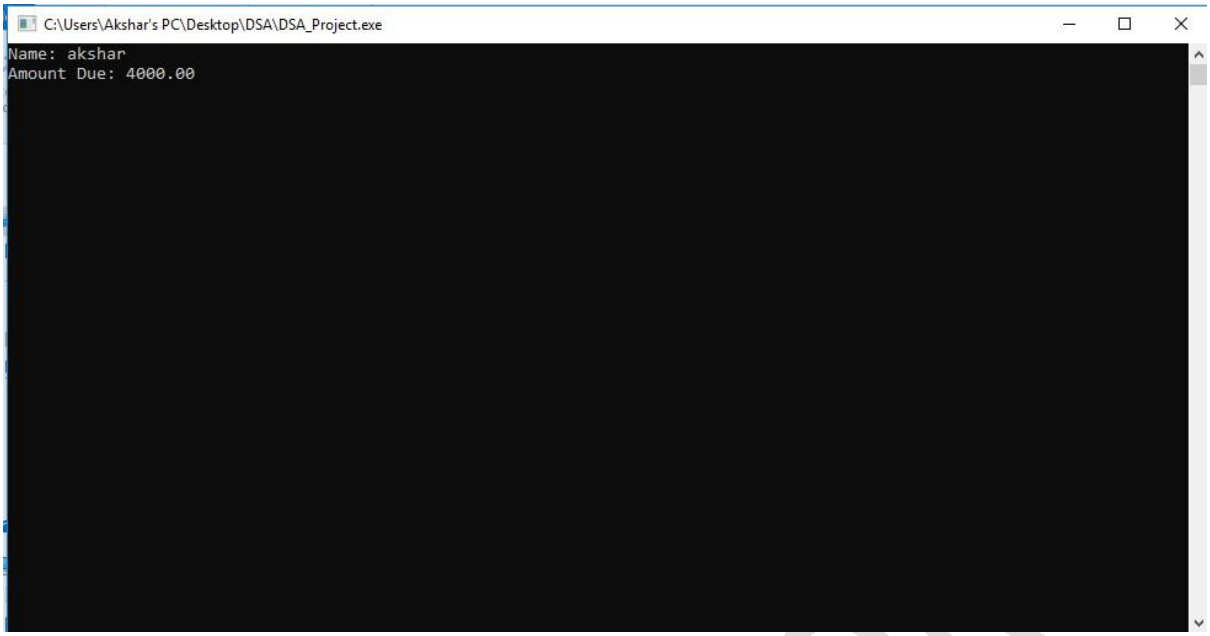

C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Welcome To Hotel Transylvania
Select Room Type:
+-----------+
| 1. Normal |
+-----------+
2. Deluxe
3. Super Deluxe
4. Suite
Remaining Rooms on 1th floor: 5
Total Remaining Rooms: 6


C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Welcome To Hotel Transylvania
Select Room Type:
+-----------+
| 1. Normal |
+-----------+
2. Deluxe
3. Super Deluxe
4. Suite
Remaining Rooms on 1th floor: 5
Total Remaining Rooms: 6
Enter Number of Rooms: 2
Alloted Rooms:
103
101
Enter Name:


C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Welcome To Hotel Transylvania
Select Room Type:
+-----------+
| 1. Normal |
+-----------+
2. Deluxe
3. Super Deluxe
4. Suite
Remaining Rooms on 1th floor: 5
Total Remaining Rooms: 6
Enter Number of Rooms: 2
Alloted Rooms:
103
101
Enter Name: akshar
Enter Address: vit
Enter Mobile Number: 80798999989
Enter Age: 17


C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Select Room Type:
+-----------+
| 1. Normal |
+-----------+
2. Deluxe
3. Super Deluxe
4. Suite
Remaining Rooms on 1th floor: 5
Total Remaining Rooms: 6
Enter Number of Rooms: 2
Alloted Rooms:
103
101
Enter Name: akshar
Enter Address: vit
Enter Mobile Number: 80798999989
Enter Age: 17
Enter Number of Persons: 2
Enter Number of days: 2


C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Welcome To Hotel Transylvania
Choose An Option:
1. CheckIn
+-------------+
| 2. CheckOut |
+-------------+
3. Exit


C:\Users\Akshar's PC\Desktop\DSA\DSA_Project.exe
Name: akshar
Amount Due: 4000.00