BUS RESERVATION SYSTEM

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ABSTRACT:-

Online bus reservation system is a project which provides a portal for bus ticket reservation. This application allows users to book bus tickets from anywhere and anytime. The user can easily book their tickets. The user can view all the details of the bus, and driver. The user can also view the details of the journey and the details of the journey timings.

- **Install Bus Reservation:**
  This feature allows you to install a typical bus information before it can be reserved by the passengers or shown in buses available. It includes the bus no., driver's name, arrival time, departure time and destination (from and to) of the bus.

- **Reservation:**
  This feature is very simple; it includes the bus no., seat number and the passenger's name. The seat number of the particular bus is reserved under the passenger's name.

- **Show Reservation Information:**
  With this feature, you can show all the information regarding the buses and their respective seats. It contains all the information stored by the previous two function of this project. It also enlists the no. of empty seats in a bus along with the seat number registered to a particular passenger.

- **Buses Available:**
  This feature simply shows the buses available for reservation, and the information regarding the bus no. stored under the first feature.

INTRODUCTION:-

Bus Ticketing System is based on a concept of purchasing bus tickets easily. Here the user can perform certain tasks like adding the bus detail, viewing all available bus and purchasing tickets easily. Talking about the features of the Bus Ticketing System, the user can add bus information such as bus number, destinations, departure, and total seats. After this, the user can easily view all the available bus record in a list; Displaying each and every detail of the bus. Another last feature is about booking bus tickets. In order to book a ticket, he/she has to enter the available bus number. If the entered bus number exists in the system then, he/she has to provide passenger's name with the total number of seats required.

OBJECTIVES:-
- Enter Bus No.
- Departure From.
- Select To city.
- Departure To city.
- Total seats:
- Bus Information Added.
- Total buses available.
- Total seat available.
- Enter Passenger's Name.
- Number of seats

Class diagram:-
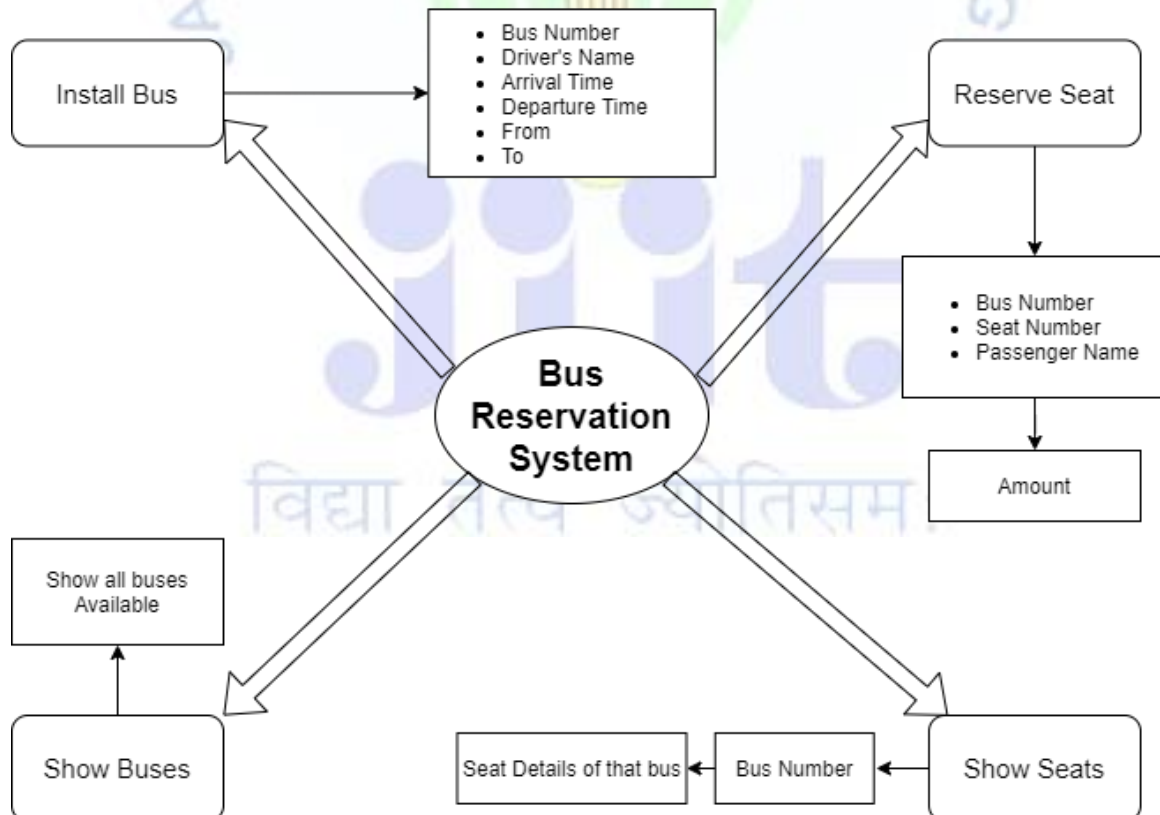
CODE:-

```cpp
#include <iostream>
#include <string.h>
using namespace std;
staticint p = 0;
class a
{
    char busn[5], driver[10], arrival[5], depart[5], from[10], to[10], seat[8][4][10];
public:
void install();
void allotment();
void show();
void avail();
void position(inti);
} bus[10];
voidvline(char ch)
{
for (inti = 80; i> 0; i--)
cout<<ch;
}
void a::install()
{
cout<< "Enter bus no: ";
cin>> bus[p].busn;
fflush(stdin);
cout<< "\nEnter Driver's name: ";
gets(bus[p].driver);
fflush(stdin);
cout<< "\nArrival time: ";
cin>> bus[p].arrival;
```

```cpp
cout<< "\nDeparture: ";
cin>> bus[p].depart;
fflush(stdin);
cout<< "\nFrom: \t\t\t";
gets(bus[p].from);
cout<< "\nTo: \t\t\t";
gets(bus[p].to);
for (inti = 0; i< 8; i++)
   {
for (int j = 0; j < 4; j++)
     {
strcpy(bus[p].seat[i][j], "Empty");
     }
   }
p++;
}

void a::allotment()
{
int seat;
char number[5];
int flag;
top:
cout<< "Bus no: ";
cin>> number;
int n;
for (n = 0; n <= p; n++)
   {
if (strcmp(bus[n].busn, number) == 0)
     {
```

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```cpp
flag = 1;
break;
    }
flag = 0;
  }
while (flag == 1)
  {
cout<< "\nSeat Number: ";
cin>> seat;
fflush(stdin);
if (seat > 32)
    {
cout<< "\nThere are only 32 seats available in this bus.";
    }
else
    {
if (strcmp(bus[n].seat[seat / 4][(seat % 4) - 1], "Empty") == 0)
      {
cout<< "Enter passenger's name: ";
gets(bus[n].seat[seat / 4][(seat % 4) - 1]);
break;
      }
else
cout<< "The seat no. is already reserved.\n";
    }
  }
if (flag == 0)
  {
cout<< "Enter correct bus no.\n";
goto top;
```

```cpp
        }

    }


void a::show()

{

int n;

char number[5];

int flag;

t:

cout<< "Enter bus no: ";

cin>> number;

for (n = 0; n <= p; n++)

    {

if (strcmp(bus[n].busn, number) == 0)

        {

flag = 1;

break;

        }

flag = 0;

    }

while (flag == 1)

    {

vline('*');

cout<< "\nBus no: \t" << bus[n].busn<< "\tDriver: \t" << bus[n].driver << "\t\tArrival time: \t" << bus[n].arrival

<< "\nDeparture time:  "<< bus[n].depart << "\tFrom: \t\t" << bus[n].from << "\t\tTo: \t\t" << bus[n].to << "\n";

vline('*');

bus[0].position(n);

int a = 0;
```

```cpp
for (inti = 0; i< 8; i++)
    {
for (int j = 0; j < 4; j++)
        {
            ++a;
if (strcmp(bus[n].seat[i][j], "Empty") != 0)
cout<< "\nThe seat no " << a << " is reserved for " << bus[n].seat[i][j] << ".";
        }
    }
break;
    }
if (flag == 0)
    {
cout<< "Enter correct bus no.\n";
goto t;
    }
}
void a::position(int l)
{
int s = 0, p = 0;
for (inti = 0; i< 8; i++)
    {
cout<< "\n";
for (int j = 0; j < 4; j++)
    {
s++;
if (strcmp(bus[l].seat[i][j], "Empty") == 0)
        {
cout.width(5);
cout<< s << ".";
```

```cpp
cout.width(10);

cout<< bus[l].seat[i][j];

p++;

        }

else

        {

cout.width(5);

cout<< s << ".";

cout.width(10);

cout<< bus[l].seat[i][j];

        }

    }

  }

cout<< "\n\nThere are " << p << " seats empty in Bus No: " << bus[l].busn;

}

void a::avail()

{

for (int n = 0; n < p; n++)

  {

vline('*');

cout<< "\nBus no: \t" << bus[n].busn<< "\tDriver: \t" << bus[n].driver << "\t\tArrival time: \t" << bus[n].arrival

<< "\nDeparture time:  "<< bus[n].depart << "\tFrom: \t\t" << bus[n].from << "\t\tTo: \t\t" << bus[n].to << "\n";

vline('*');

  }

}

int main()

{

int w;
```

```cpp
while (1)
   {
cout<< "\n\n\n\n\n";
cout<< "\t\t\t1.Install\n\t\t\t"
<< "2.Reservation\n\t\t\t"
<< "3.Show\n\t\t\t"
<< "4.Buses Available. \n\t\t\t"
<< "5.Exit";
cout<< "\n\t\t\tEnter your choice:-> ";
cin>> w;
switch (w)
    {
case 1:
bus[p].install();
break;
case 2:
bus[p].allotment();
break;
case 3:
bus[0].show();
break;
case 4:
bus[0].avail();
break;
case 5:
exit(0);
    }
   }
return 0;
}
```
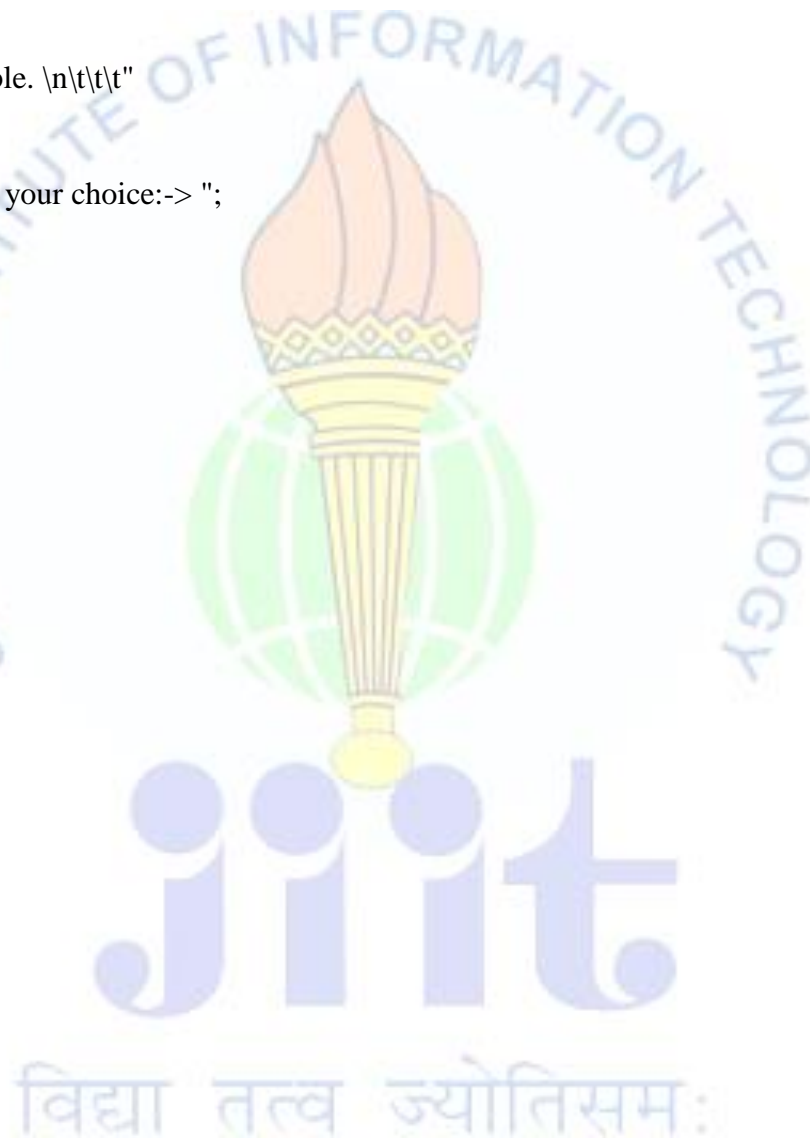
Results and discussions:-

ALGORITHM:

❖ Taking a class named as a.

❖ Declaring the variables and arrays as busn[5], driver[10],arrival[5], depart[5],from[10], to[10], seat[8][4][10].

❖ And in public of the class we are giving member functions as

- void install();
- void allotment();
- void empty();
- void show();
- void avail();
- void position(inti);

❖ And giving that maximum buses available are 10.

❖ And now with respect to installing function we gave few options to enter in the run time which will gives to enter the bus details from back end of the system like bus no, Driver's name, Arrival time, Departure time, from and to .

❖ And now with respect to allotment function we can allot seats for customer according to their preferable seat numbers.

❖ And the empty function shows that the seats are empty in

❖ the bus.

❖ And the show function shows that the how many seats available in the given bus.And which seats are all ready reserved in the bus.

OUTPUT:-

```
C:\CodeBlocks\BIN\project.exe                                       —    □    ✕

There are 30 seats empty in Bus No: 3
The seat no 1 is reserved for Prabudh.
The seat no 5 is reserved for Sachin.




                    1.Install
                    2.Reservation
                    3.Show
                    4.Buses Available.
                    5.Exit
                    Enter your choice:-> 4

*******************************************************************
Bus no:         1      Driver:        Kritarth            Arrival time:    10:30
Departure time:  11:00  From:          Jewar           To:            Ghaziabad
*******************************************************************

Bus no:         3      Driver:        Tanmay      Arrival time:    15:45
Departure time:  16:00  From:          Haryana         To:            Delhi
*******************************************************************




                    1.Install
                    2.Reservation
                    3.Show
                    4.Buses Available.
```

```
C:\CodeBlocks\BIN\project.exe                                       —    □    ✕

                    1.Install
                    2.Reservation
                    3.Show
                    4.Buses Available.
                    5.Exit
                    Enter your choice:-> 3
Enter bus no: 2
Enter correct bus no.
Enter bus no: 1
*******************************************************************
Bus no:         1      Driver:        Kritarth            Arrival time:    10:30
Departure time:  11:00  From:          Jewar           To:            Ghaziabad
*******************************************************************
    1.     Empty   2.   Kritank   3.     Empty   4.     Rahul
    5.     Empty   6.     Empty   7.     Empty   8.     Empty
    9.     Empty  10.     Empty  11.     Empty  12.     Empty
   13.     Empty  14.     Empty  15.     Empty  16.     Empty
   17.     Empty  18.     Empty  19.     Empty  20.     Empty
   21.     Empty  22.     Empty  23.     Empty  24.     Empty
   25.     Empty  26.     Empty  27.     Empty  28.     Empty
   29.     Empty  30.     Empty  31.     Empty  32.     Empty

There are 30 seats empty in Bus No: 1
The seat no 2 is reserved for Kritank.
The seat no 4 is reserved for Rahul.
```

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```
                    1.Install
                    2.Reservation
                    3.Show
                    4.Buses Available.
                    5.Exit
                    Enter your choice:-> 3
Enter bus no: 3
***********************************************************************
Bus no:          3      Driver:          Tanmay         Arrival time:    15:45
Departure time:  16:00  From:            Haryana        To:              Delhi
***********************************************************************
    1.    Prabudh   2.     Empty   3.     Empty   4.     Empty
    5.    Sachin    6.     Empty   7.     Empty   8.     Empty
    9.    Empty    10.     Empty  11.     Empty  12.     Empty
   13.    Empty    14.     Empty  15.     Empty  16.     Empty
   17.    Empty    18.     Empty  19.     Empty  20.     Empty
   21.    Empty    22.     Empty  23.     Empty  24.     Empty
   25.    Empty    26.     Empty  27.     Empty  28.     Empty
   29.    Empty    30.     Empty  31.     Empty  32.     Empty

There are 30 seats empty in Bus No: 3
The seat no 1 is reserved for Prabudh.
The seat no 5 is reserved for Sachin.
```

```
Departure: 16:00

From:              Haryana

To:                Delhi




                    1.Install
                    2.Reservation
                    3.Show
                    4.Buses Available.
                    5.Exit
                    Enter your choice:-> 2
Bus no: 1

Seat Number: 2
Enter passenger's name: Kritank

You have to pay Rs. 300



                    1.Install
                    2.Reservation
```

```
C:\CodeBlocks\BIN\project.exe                                    —    □    ✕

To:                Ghaziabad




                   1.Install
                   2.Reservation
                   3.Show
                   4.Buses Available.
                   5.Exit
                   Enter your choice:-> 1
Enter bus no: 3

Enter Driver's name: Tanmay

Arrival time: 15:45

Departure: 16:00

From:              Haryana

To:                Delhi
```

```
C:\CodeBlocks\BIN\project.exe                                    —    □    ✕

Seat Number: 4
Enter passenger's name: Rahul

You have to pay Rs. 300




                   1.Install
                   2.Reservation
                   3.Show
                   4.Buses Available.
                   5.Exit
                   Enter your choice:-> 2
Bus no: 3

Seat Number: 1
Enter passenger's name: Prabudh

You have to pay Rs. 300




                   1.Install
                   2.Reservation
                   3.Show
                   4.Buses Available.
                   5.Exit
                   Enter your choice:-> 2
```

CONCLUSIONS:-

We can book the ticket for the passenger i.e.; according to their opinion we can book their seats according to the seat numbers they want And after booking we have to show them that what are the seats they reserved and bus details.

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