OOPS Project: Bus Reservation System

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Submitted To:-
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Project Aim And Working

We have created a bus reservation system in which we can store the data of buses and reserve tickets and then also fetch them accordingly.

- Install Bus: makes you add bus details.
- Reservation of bus seats: reserving bus tickets for the passengers.
- Show Ticket availability: Shows ticket availability and the tickets reserved.
- Buses Available: Displays the number of buses available.
- Exit: ends the program.

The names suggest what the functions would do.

What We Used

Switch Case

- Switch case statement is used when we have multiple conditions and we need to perform different actions based on the condition.

Syntax

```
switch (n)
    {
    case 1: // code to be executed if n = 1;
    break;
    case 2: // code to be executed if n = 2;
    break;
    default: // code to be executed if n doesn't match any cases
    }
```

What We Used

Conditional Statements

- If Else Statement:- It is used to execute some statement code block if the expression is evaluated to true, otherwise executes else statement code block.

Syntax

```
if(condition){

//Statements inside of if block

}

else{

//Statements inside of else block

}
```

What We Used

Loops

- While loop
- Do-while loop
- For loop
- Range based Loop:- It is a new feature of C++ which was added in C++ 11. It is only worked in CodeBlocks and Visual Studio Code.

Encapsulation

- Binding data members and member functions in one unit known as a class. With the help of this concept, data is not accessible to the outside world and only those functions which are declared in class can access it.

What We Used

Class and Objects

- A class in C++ is a user defined data type or data structure. In simple words, a class ia a collection of objects of similar type. It is a instance of class. When a class is defined, no memory is allocated when object is instantiated memory is allocated.

Syntax

```
class  ClassName
{   Access specifier;
    Data Member;
     Member Functions;
};
ClassName ObjectName;
```

What We Used

Inheritance

- Inheritance is a process by which objects of new class acquire the properties of objects of existing class. Using inheritance, we can increase a class functionalities.

Syntax

```
class subclass_name :
access_mode base_class_name
{
//body of subclass
};
```

What We Used

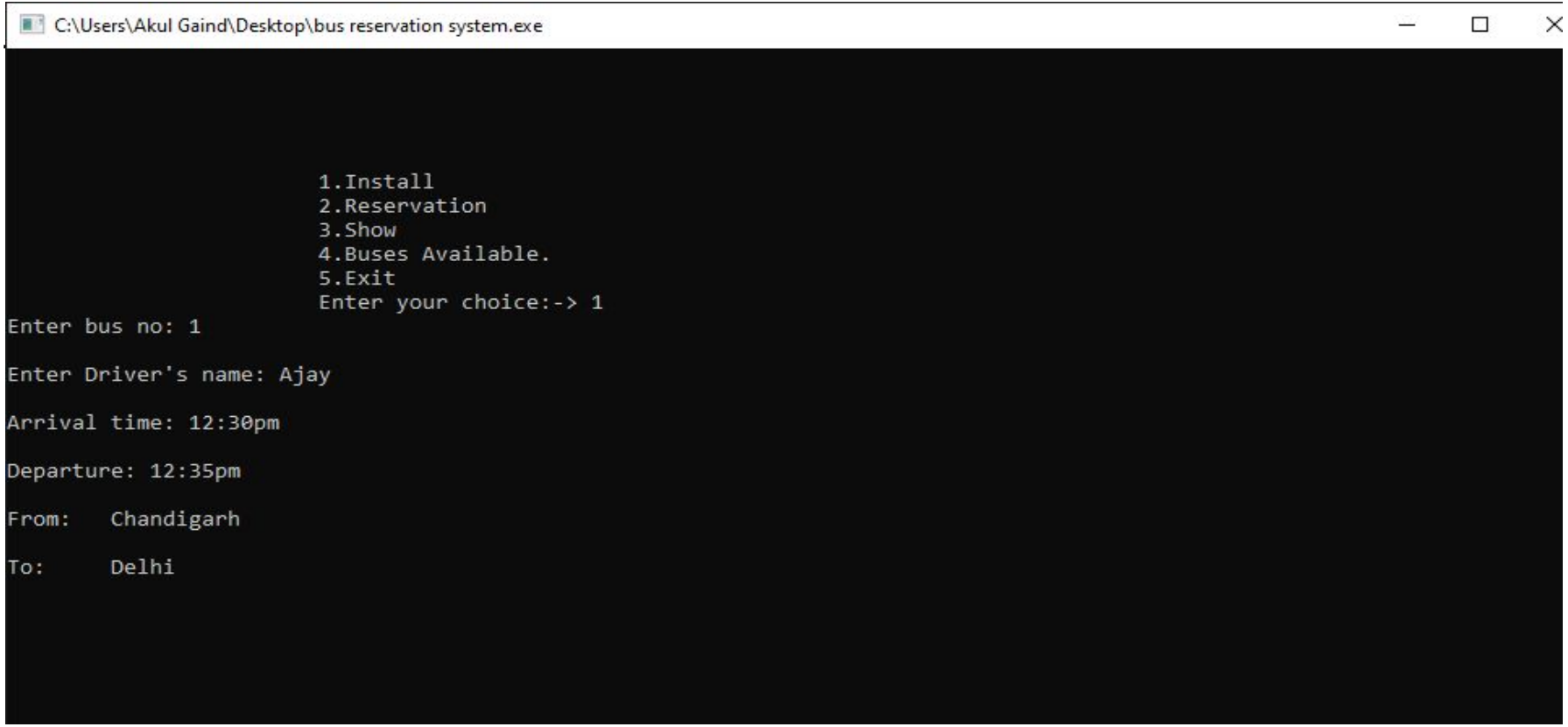
Functions Like

- fflush(stdin) is used to clear the buffer.
- vline():- It draw a vertical line using ch starting at the cursor position in the window.

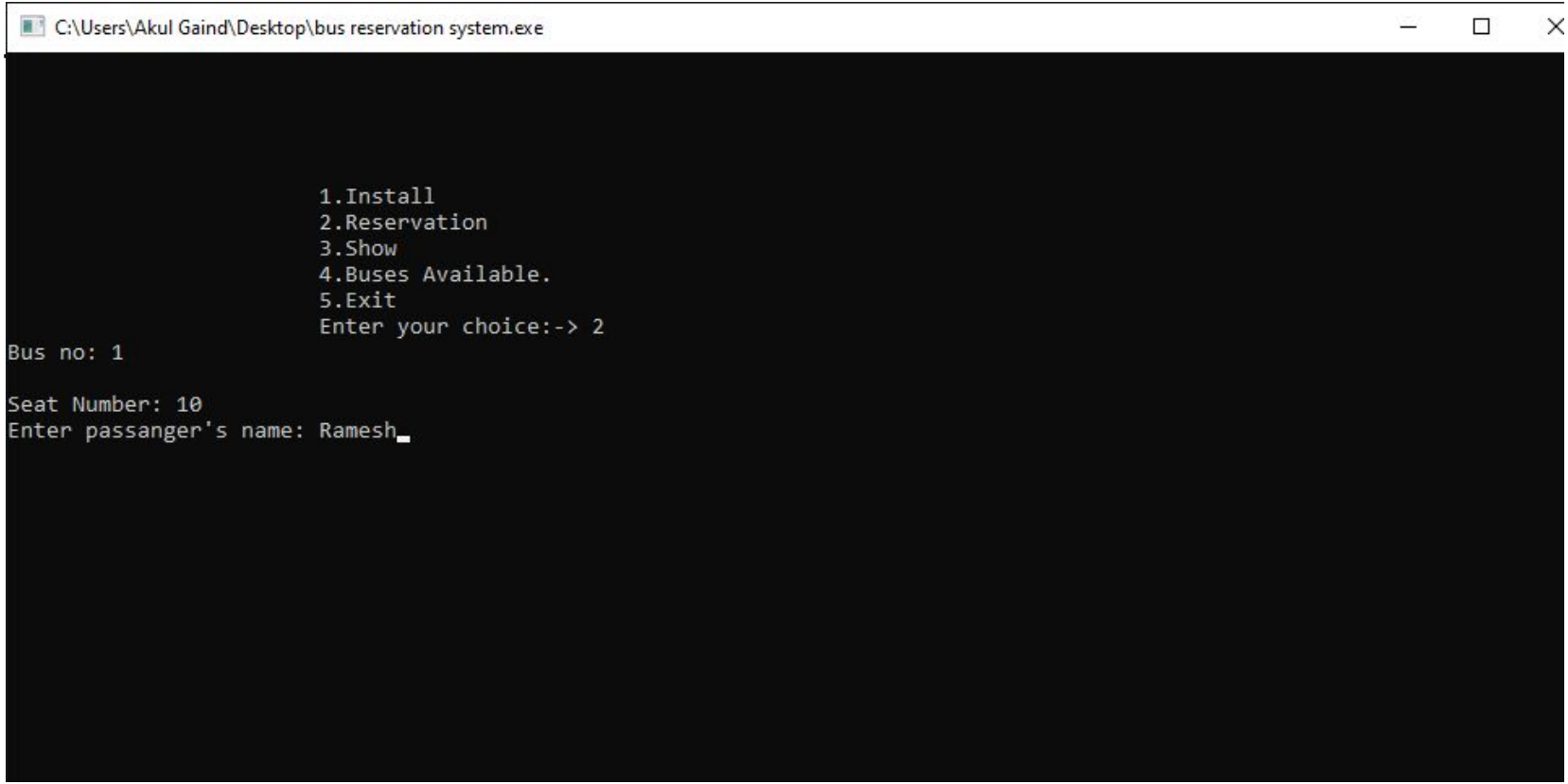
Other functions

- Data Hiding:- Using access specifiers like public, private and protected we can choose which members can be accessed by outside sources and which members cannot.
- STL:- We used classes defined in Standard Template Library like “string” classes.

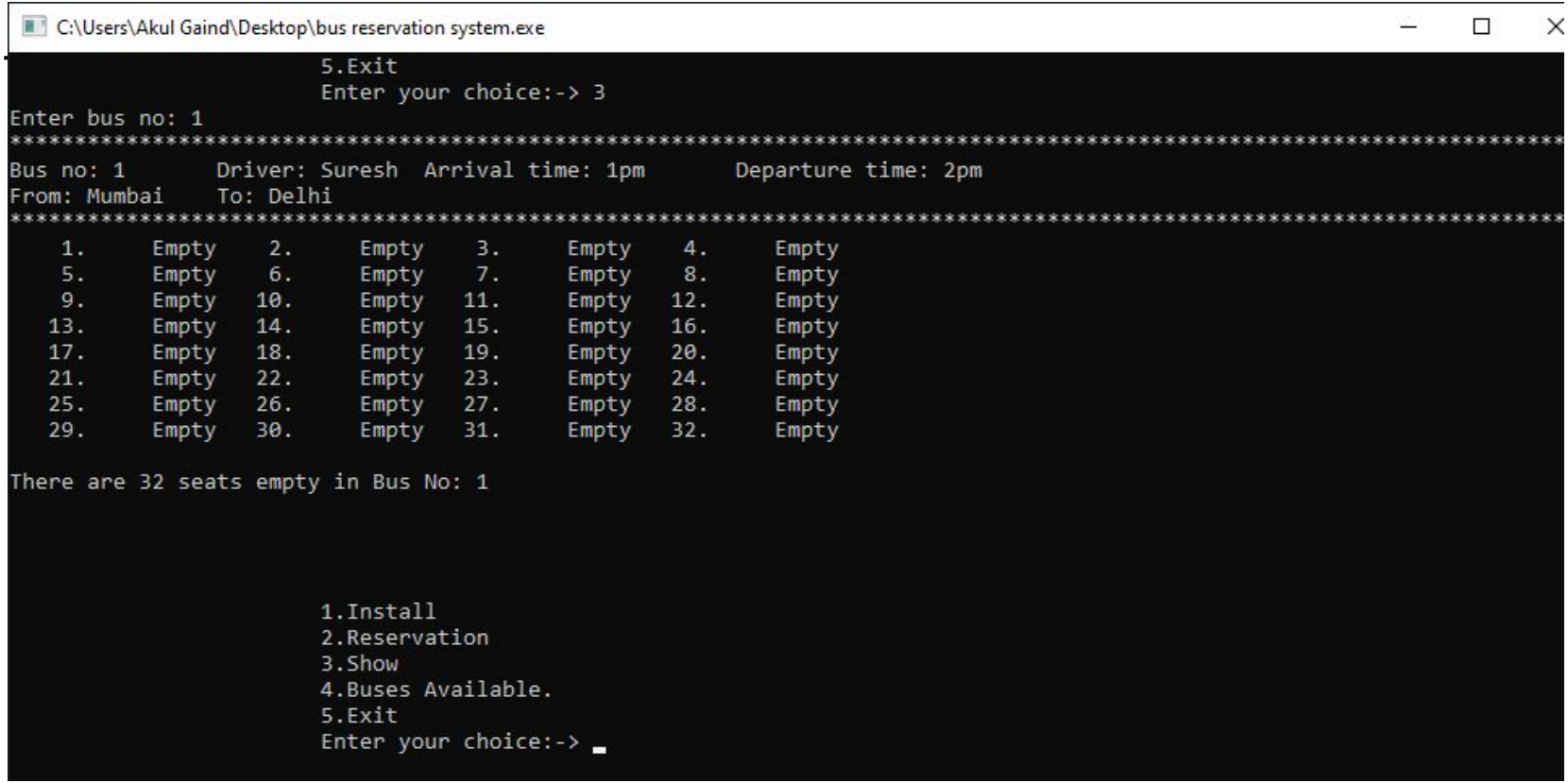
Results



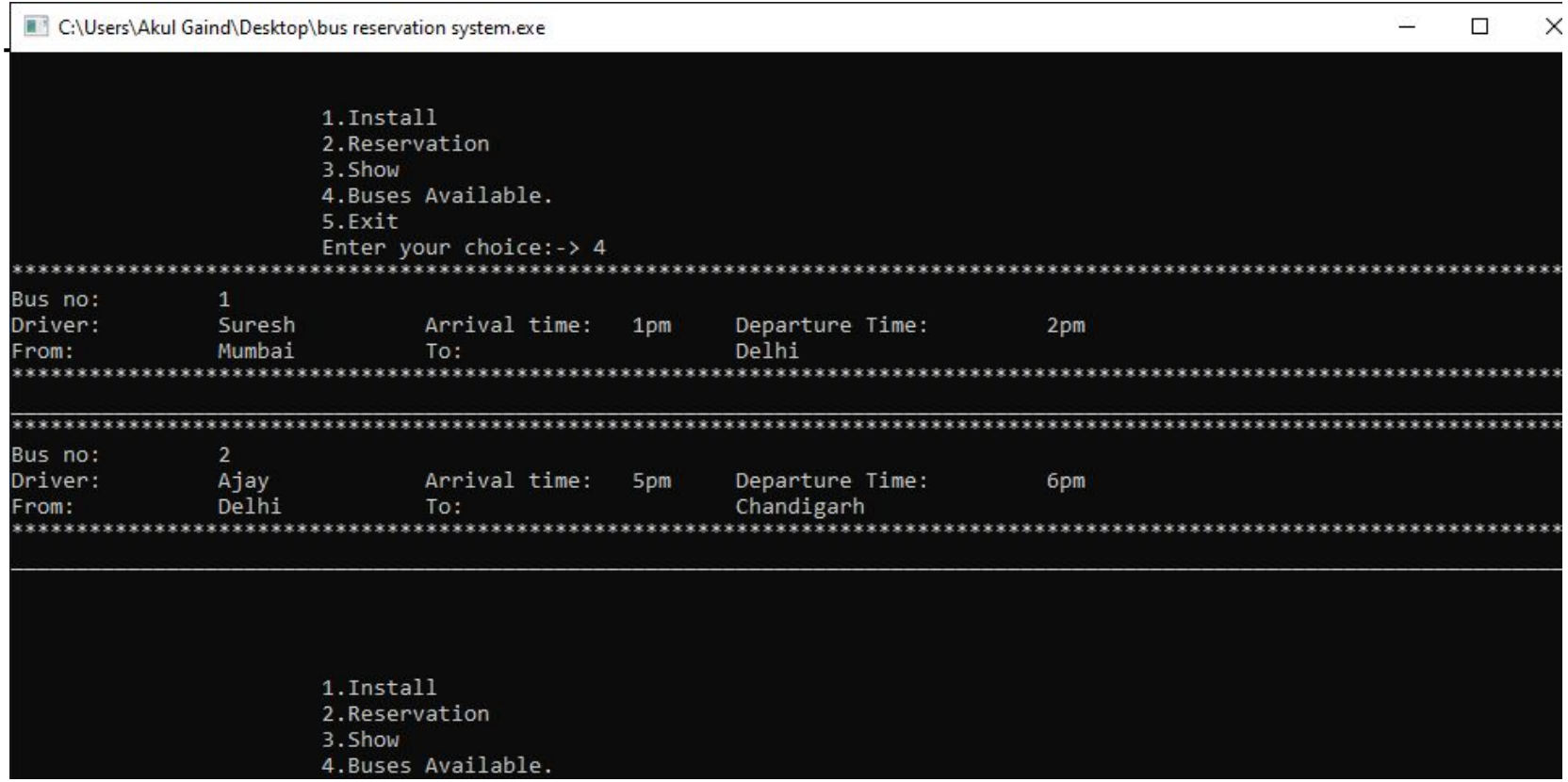
Installing a Bus Information



Reserving ticket for a Passenger



Checking Seats Reserved/Availability



Showing Buses Available