A

Project Report

On

"Reserved Parking Slot System"

Submitted to Savitribai Phule Pune University for Degree

Course B. Sc. (Computer Science)

Submitted By,

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Guided by

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M.V.P Samaj's

Commerce, Management & Computer Science

(C.M.C.S) College

In Academic Year

2019-20.

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C E R T I F I C A T E

This is to certify that the project entitled,

"Reserved Parking Slot System"

Has been completed satisfactorily by following students under the Partial fulfilment of T Y B Sc. (Computer Science) course in Academic year 2019-20.

Name: - Harshal Badwaik Roll No. : - 41

Seat No: -

Project Guide: - Prof. Mrs M.N. Sawant **HOD**

Internal Examiner **External Examiner**

Acknowledgement

Any Project requires the guidance, hard work, contribution of time along with well-organized and well planned efforts by many people. It is a very difficult task to acknowledge all those who have been helping in our academic project work. Still we would like to express our deepest gratitude to all those who have contributed there valuable time and knowledge to this project, either directly or indirectly.

I take this opportunity to thank our Project Guide,

"Mrs M. N. SAWANT" & our Computer Science Department staff.

I would also like to thank our Respected Principal

"Dr. **S. N. SHINDE"** Sir.

Thank You

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Introduction: -

The Purpose of this project is to track and manage occupancy of parking Slots and allow customers to find and reserve available parking places. The parking Lots currently operates with any computerized system and also by computerized system. Sometimes there may be a problem to find a particular Vehicle. So to solve this problem we design a Computerized Reserved Parking Slot Management System.

Problems such as find vehicle and insufficient parking space inevitably crops up. Although, the problem can be addressed via many methods, the paper focuses on the vehicle park management system introduced, which is the smart parking system. This study will review the evolution of vehicle detection technologies as well as the detection systems developed over the years.

System Analysis: -

The Study of Existing System: -

The current system of parking lot is both computerized and manual also. Requires manpower to manage the parking system. Sometimes it may become difficult to find the particular vehicle in large numbers of vehicles in a big Parking lot.

All the Records are Stored manually so it is difficult to manage the Record Files. In case of finding the specific record it is very difficult to find the record in the registered file. This may also cause wastage of papers as well as get extra time to find our vehicles.

Limitations of the Present System: -

- Present working of Parking Lot is manual and computerized. The information in many registers and on the papers which may cause unavailability of information.

- If in case, records are lost, it will cause problem in managing data. Keeping all records in registers also affects the secrecy of all business related data. Anyone can easily access the private information from register.

- Making all calculations manually managing all payment related information is also an overhead.

Introduction to Proposed System: -

- By making the system computerized Software-Oriented we can maintain all the records easily in a systematic and presentable way.

- With help of computerized system any kind of record will be stored in system and large amount of data can be handled.

- Different features of system will make faster availability of record and details related Vehicles

- A Software Oriented System is an easy to handle, easy to maintain and systematic way of recording the necessary information.

Scope of Present System: -

Following are some noticeable Scope and benefits of the proposed System:-

1. As there will be Search facility in proposed system will which will make finding of single record easy.
2. As there will be secured login system so only one who knows the password and user id can handle the system
3. All the Payment Related calculations will system do by its own no need to do calculation manually.
4. Data will be maintained in systematically and presentable way in system.
5. System will also generate the computerized bill, which will reduce the overhead of manual paper bill.
6. Efficient working will be achieved.
7. Information unavailability due to loss of registers will be eliminated.

Every work from keeping records of new orders till the completion of that order is done by the Software Oriented System. Efficiency of work increases due to adaptation of such systems into a company.

Requirement Analysis: -

Feasibility Study: -

- **Technical feasibility study :**

  This Software system is designed in such way so that any of its user can easily handle the system or interact with it. The user of system need not to have any higher or technical knowledge about the computer to interact with system. Any basic computer user can also handle the system. The system will be easy to handle and understand because it will be as per the user requirement.

- **Economic feasibility study :**

  The UI of system is easy to understand and handle. System will not require any additional s/w or h/w to run this system which in turn saves cost and provides reliability.

- **Operational feasibility study:**

  The system will be produced using java language so user can install this system and run this on any hardware and operating system with minimum hardware and software setup.

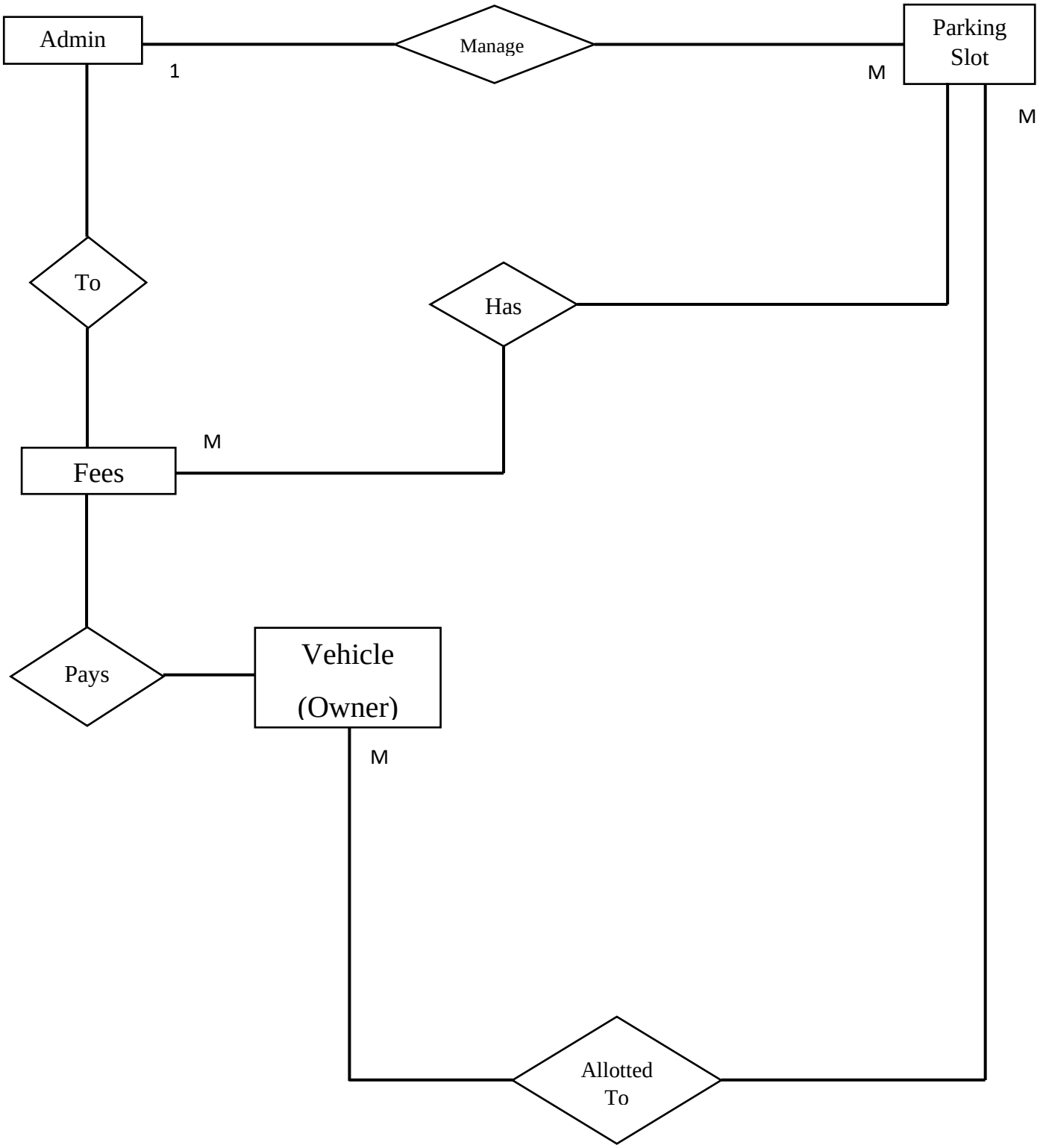
The Minimum Hardware Requirement:-

- A Computer with 1GB Ram, 320 GB of Hard Drive.
- A Printer.

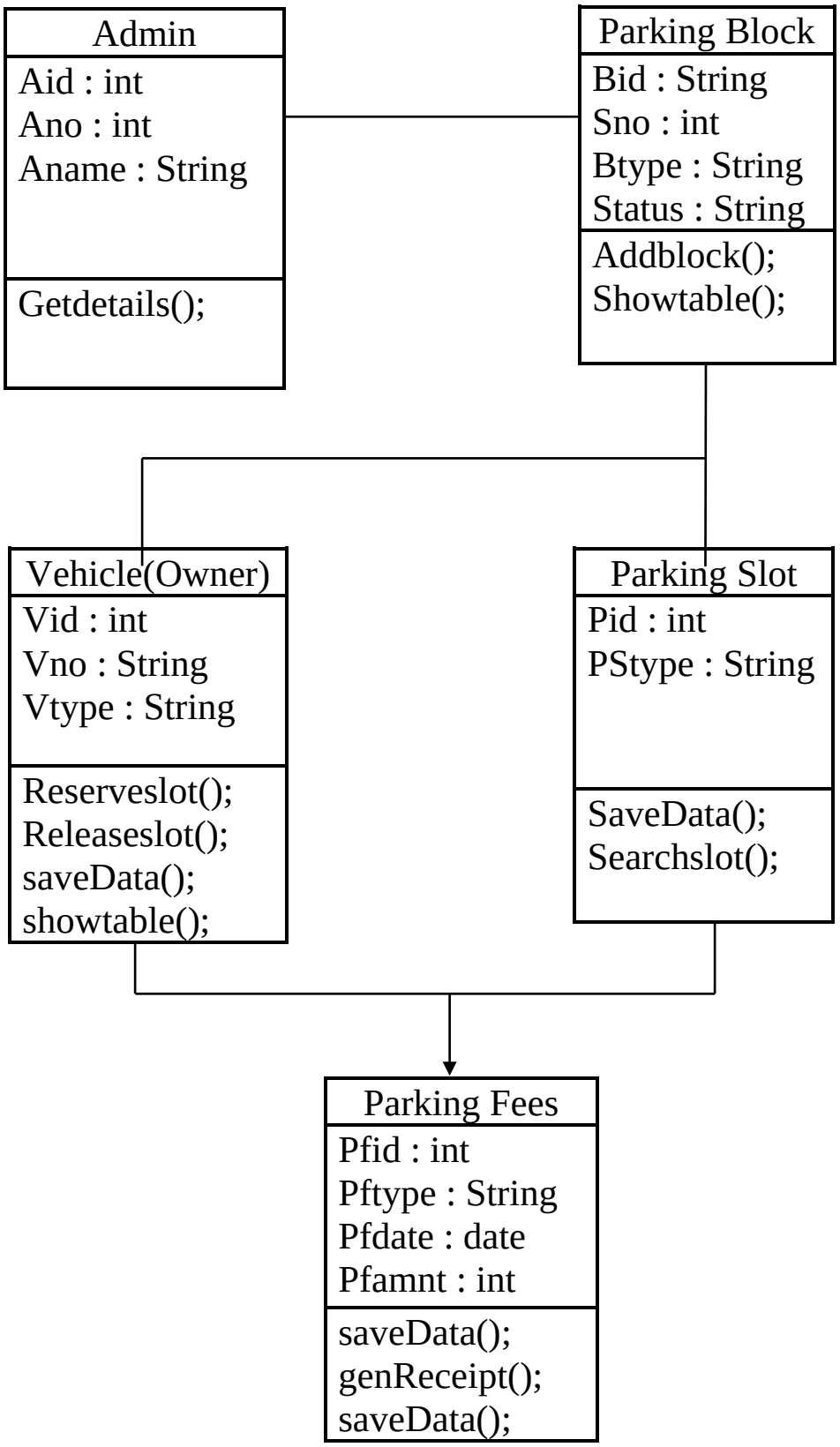
The Minimum Software Requirement:-

- Windows 7 or upward Running version of OS.
- MS Access

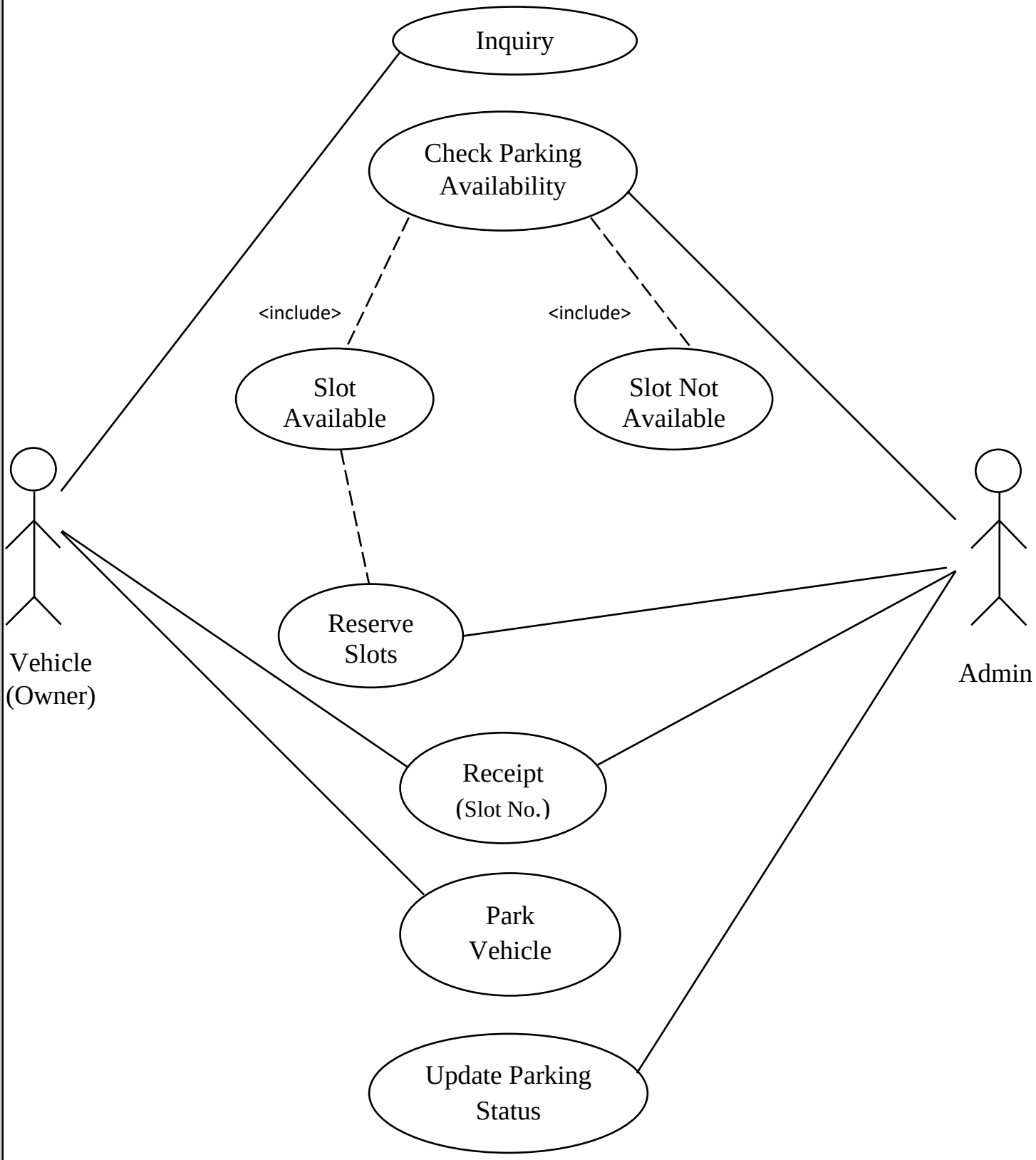
Entity-Relationship Diagram:-



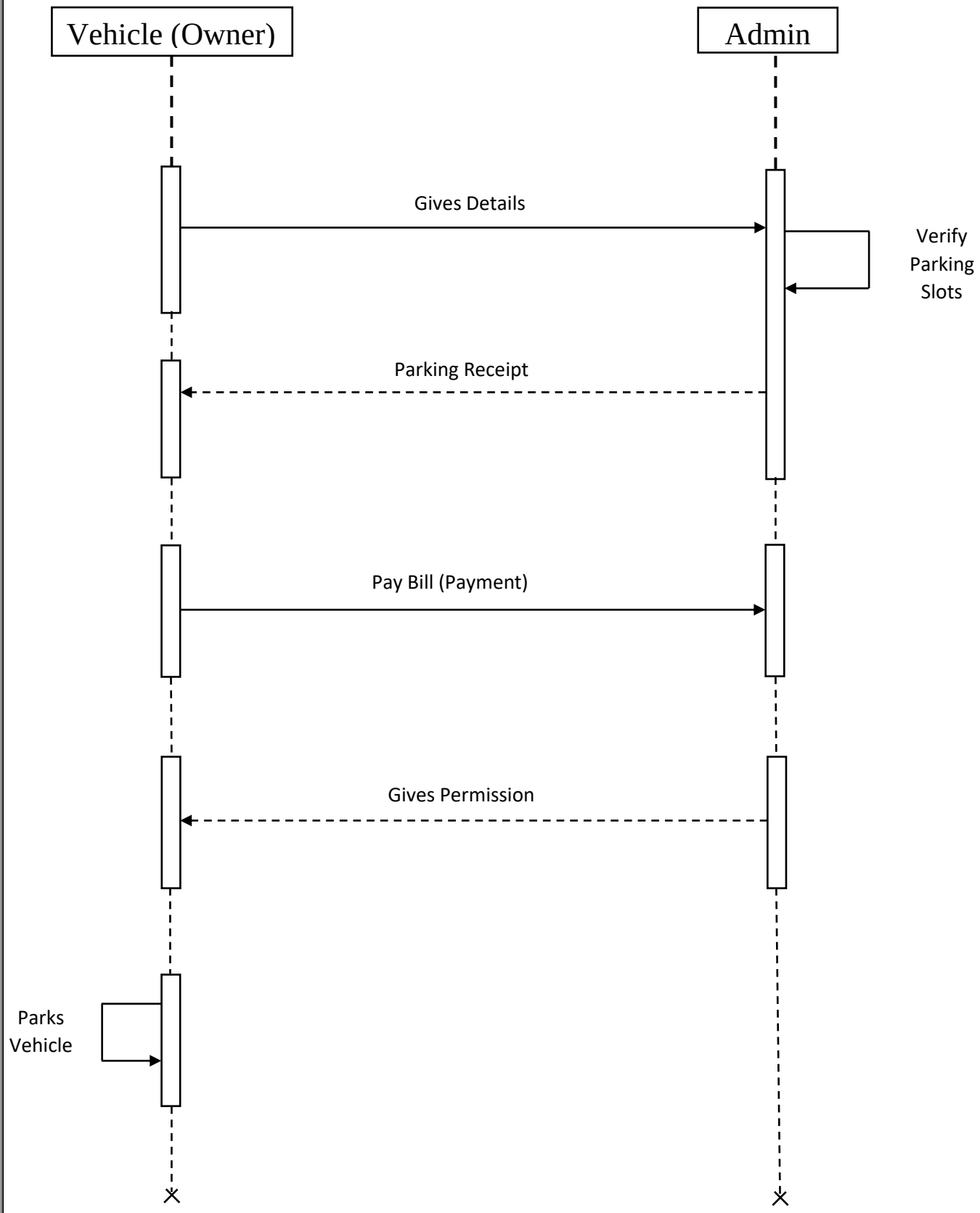
UML Diagram: - Class Diagram



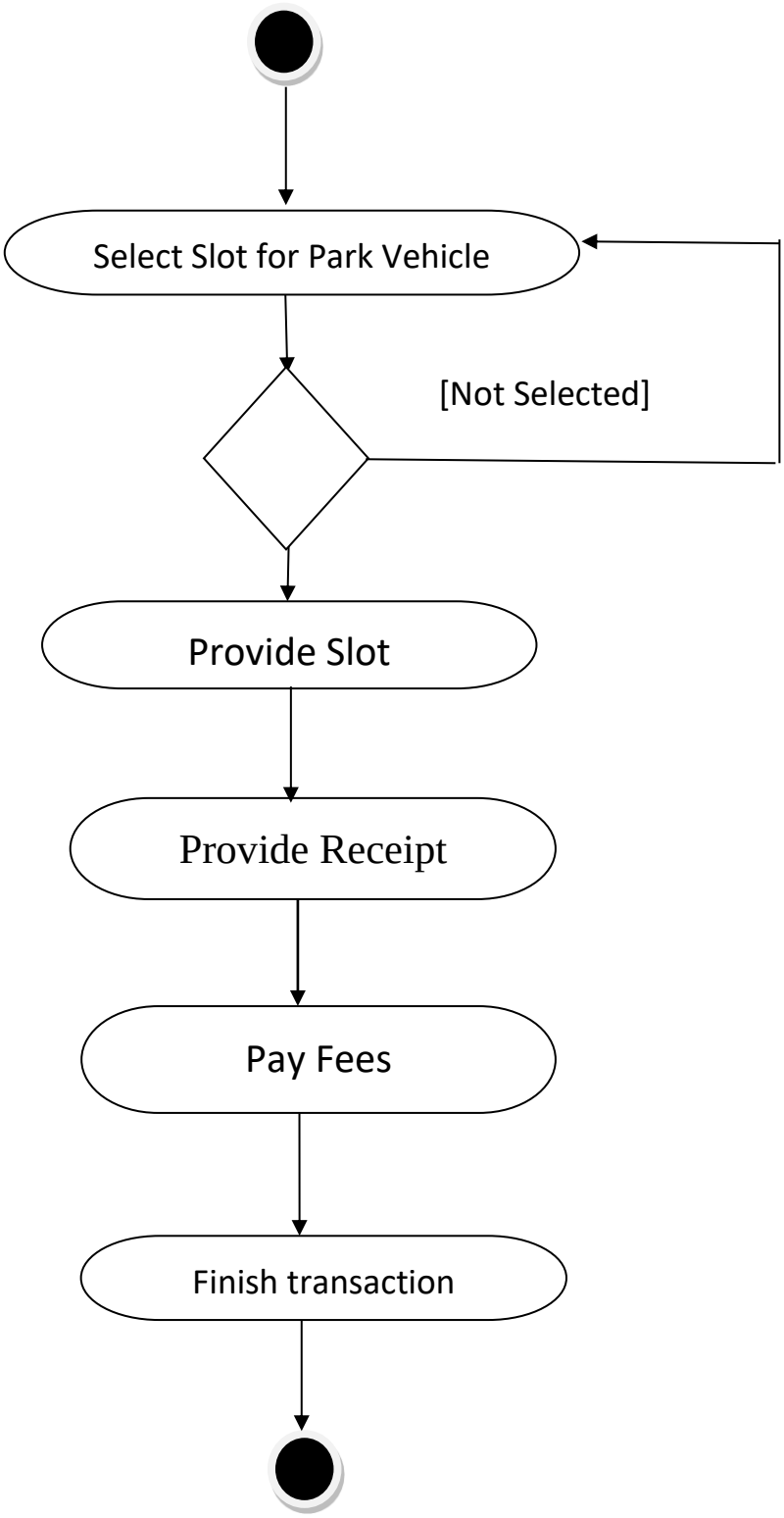
UML Diagram: - Use Case Diagram



UML Diagram: - Sequence Diagram



UML Diagram: - Activity Diagram



Data Dictionary:

Vehicle:

Fields	DataType	Description	Key / Constraints
Eid	Number	Entry id	PK
Vno	Number	Vehicle Number	
Endate	Date	Entry Date	
Exdate	Date	Exit Date	
Pid	Number	Parking Id	
Fees	Text	Parking Fees	

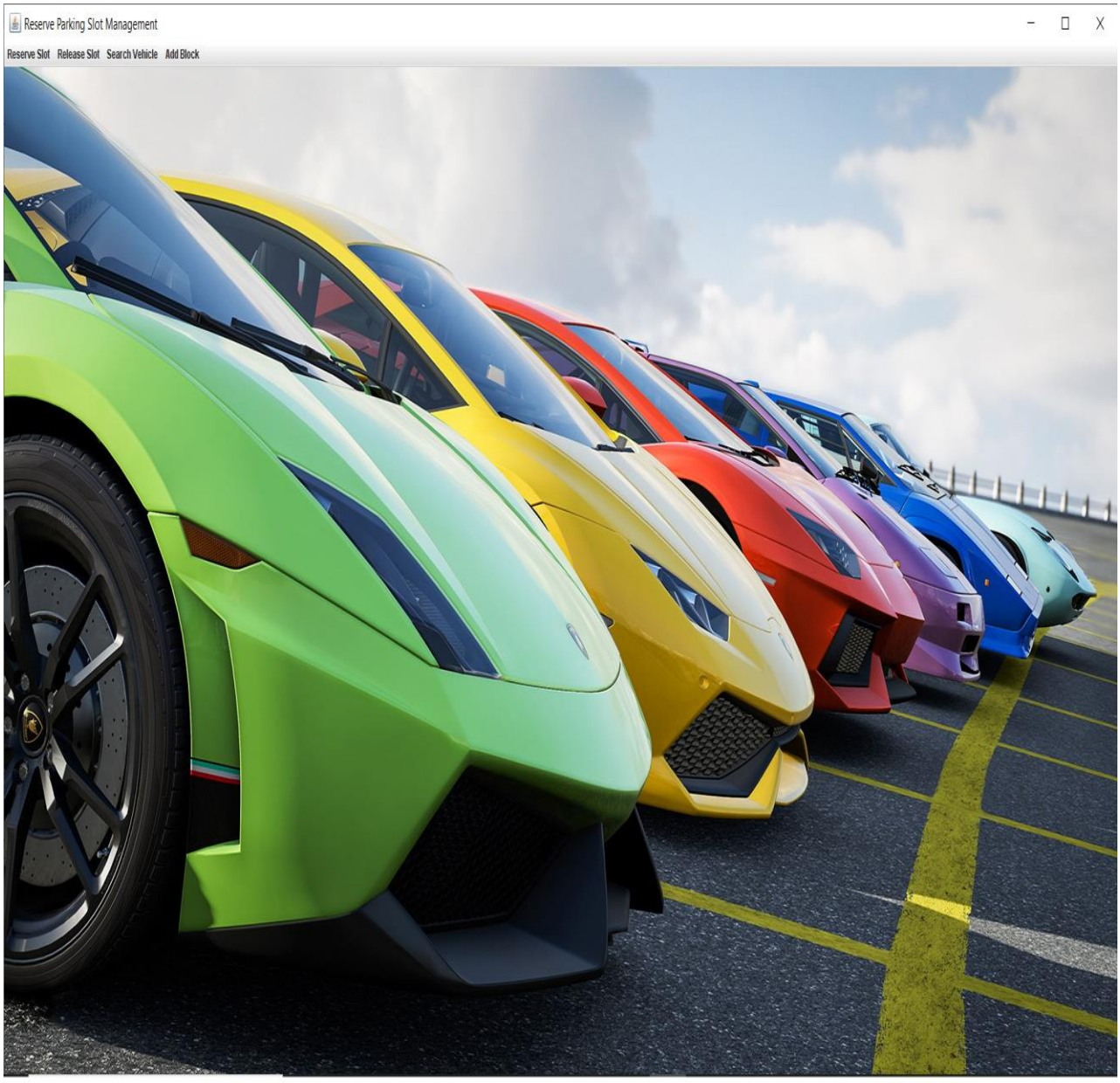
Block: -

Fields	DataTypes	Discription	Key / Constraints
Bid	Number	Block Id	PK
Sno	Number	Slot Number	
Btype	Text	Block Type	
Status	Text	Status	

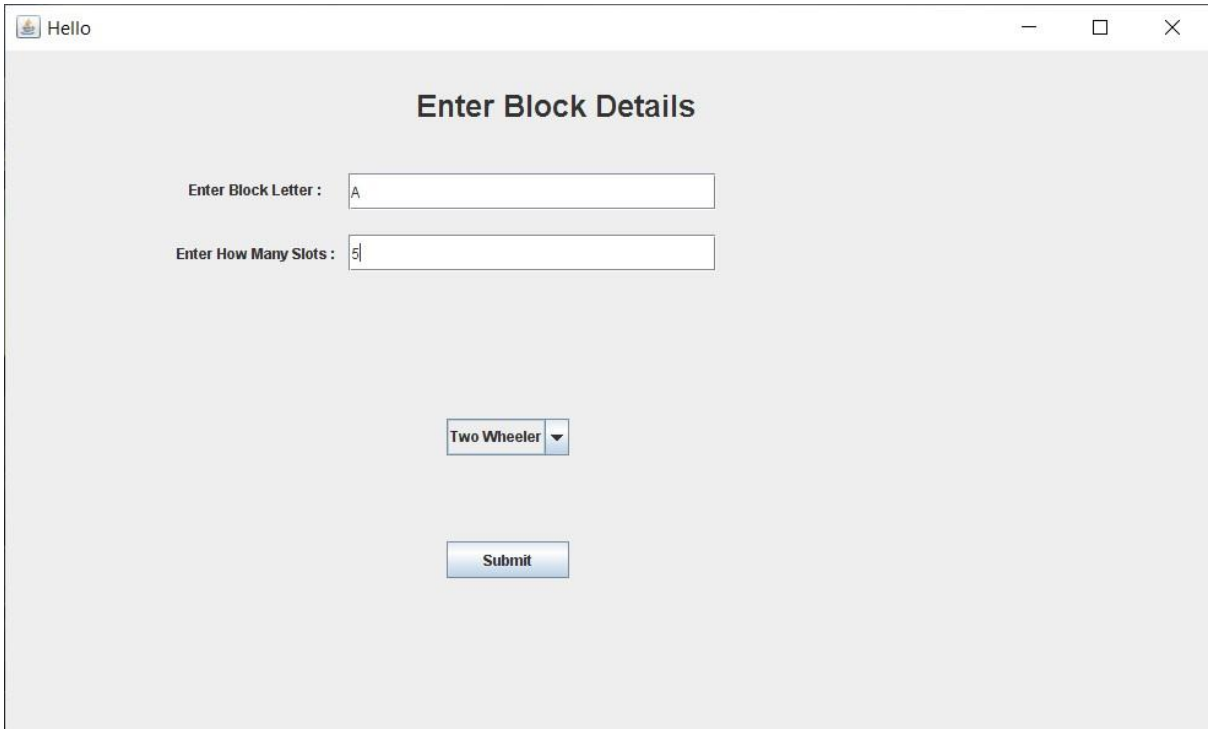
I/O Screens: -

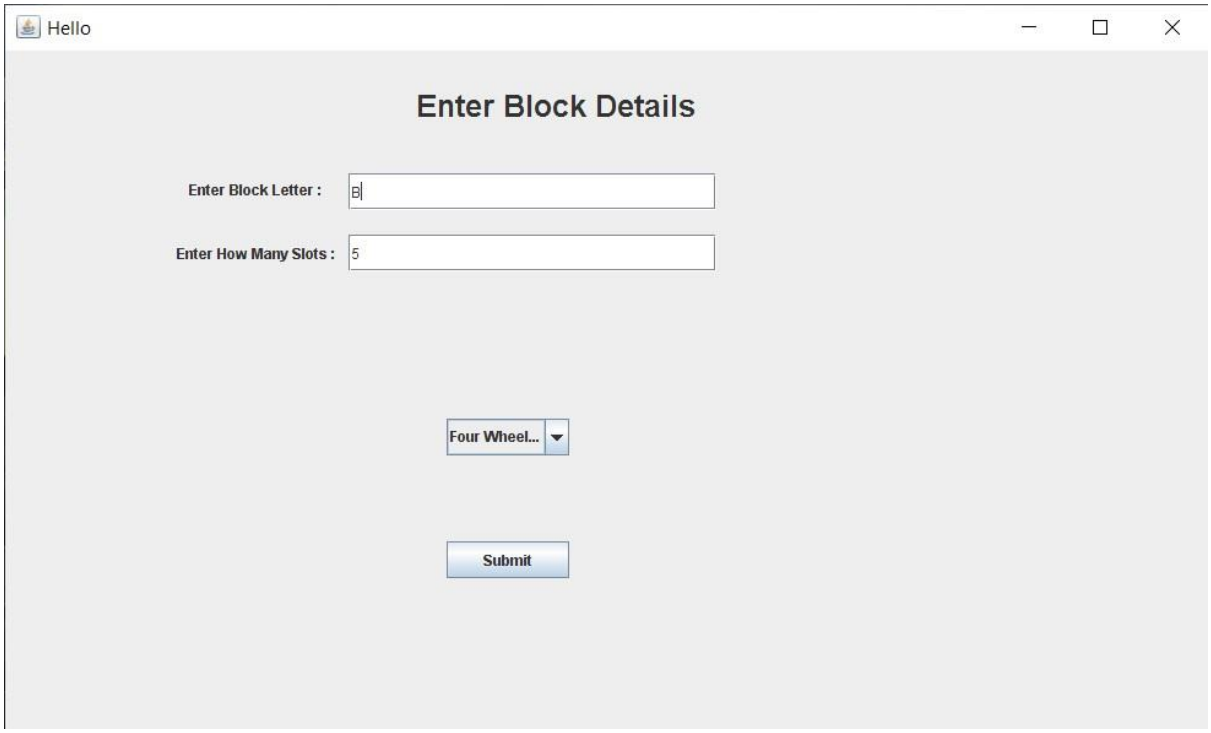
Login Page: -

Main Frame: -

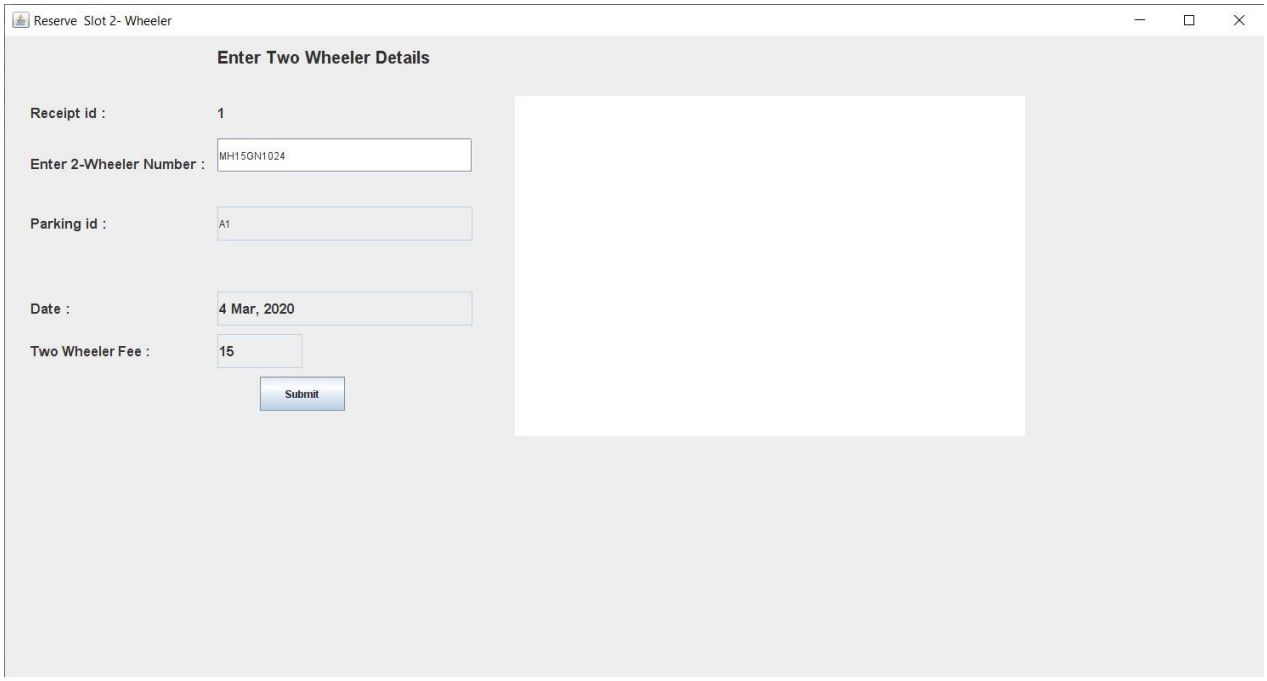

Reserve Parking Slot Management
Reserve Slot
Release Slot
Search Vehicle
Add Block

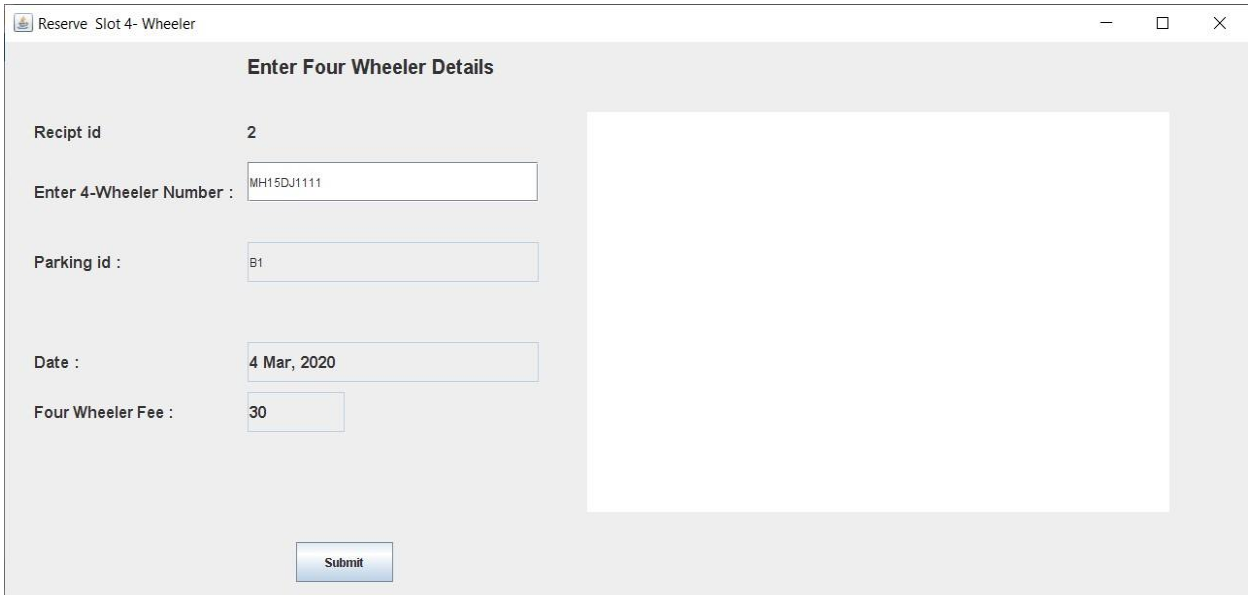
Add Parking Blocks: -



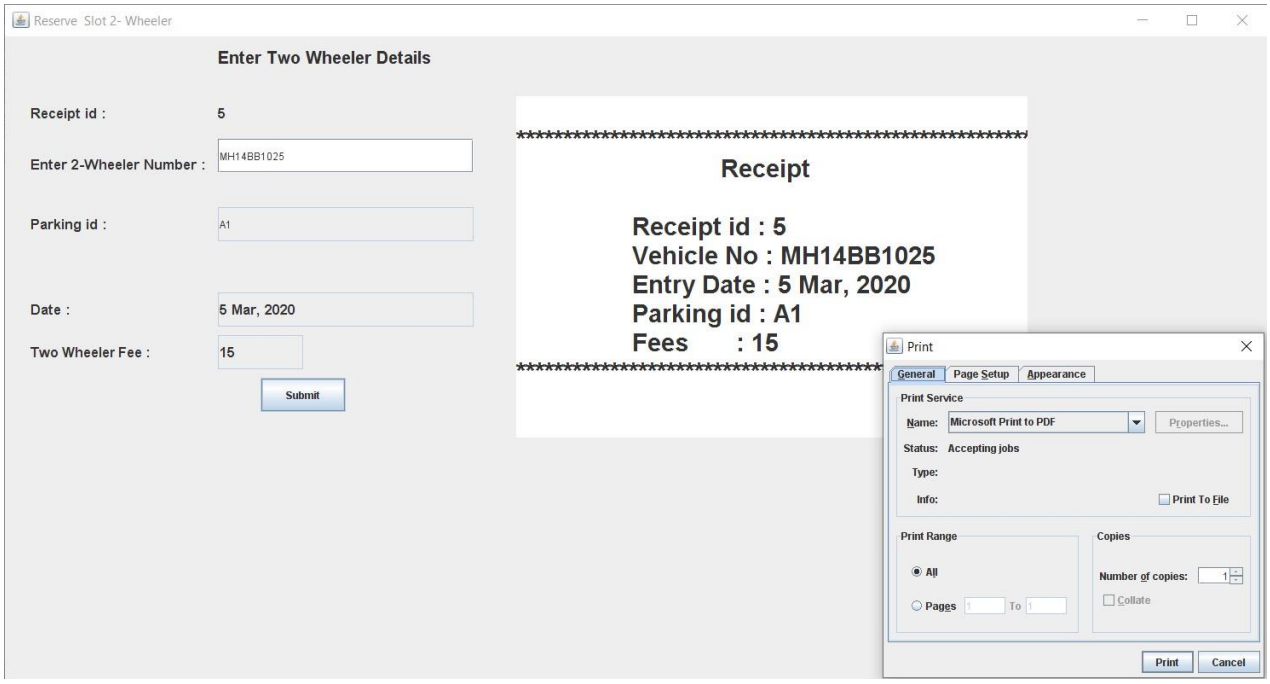


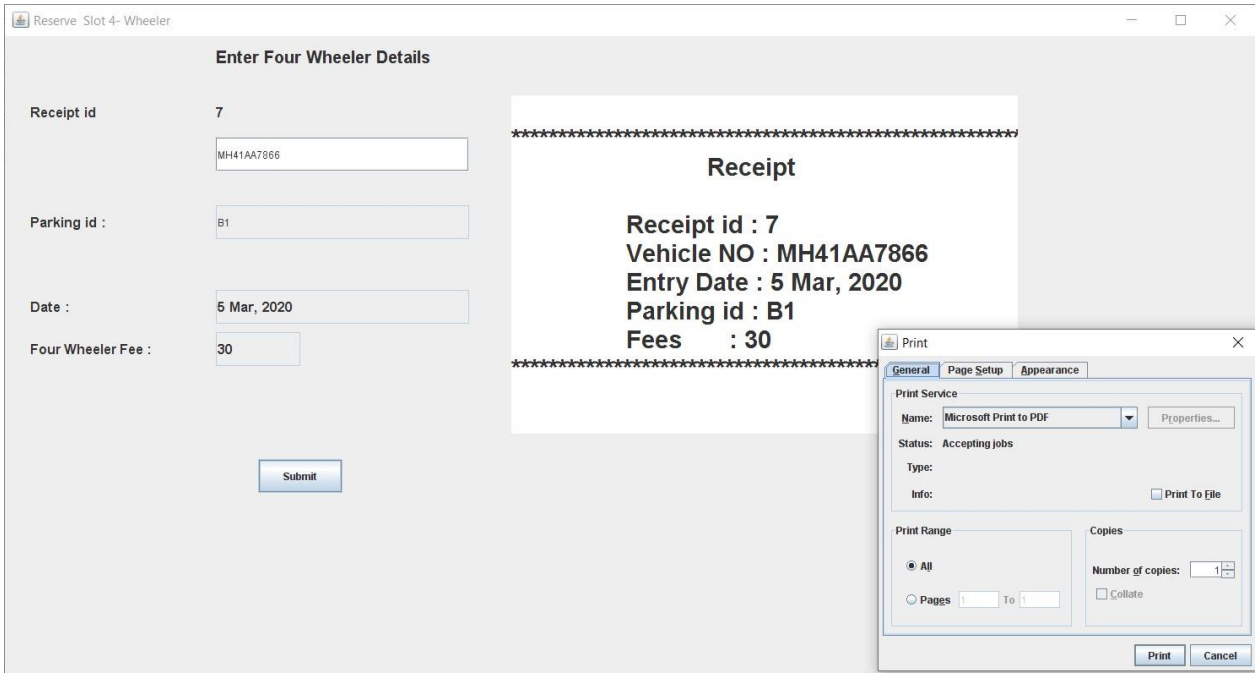
Reserve Slots Frame: -



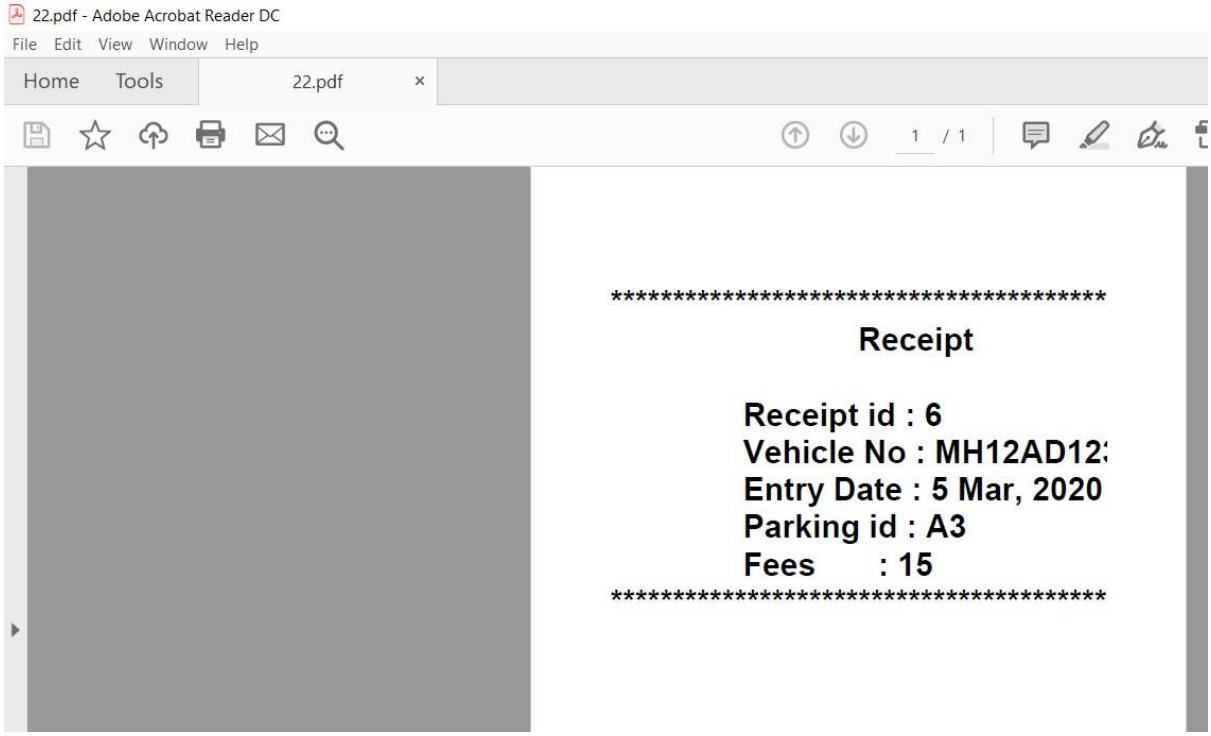


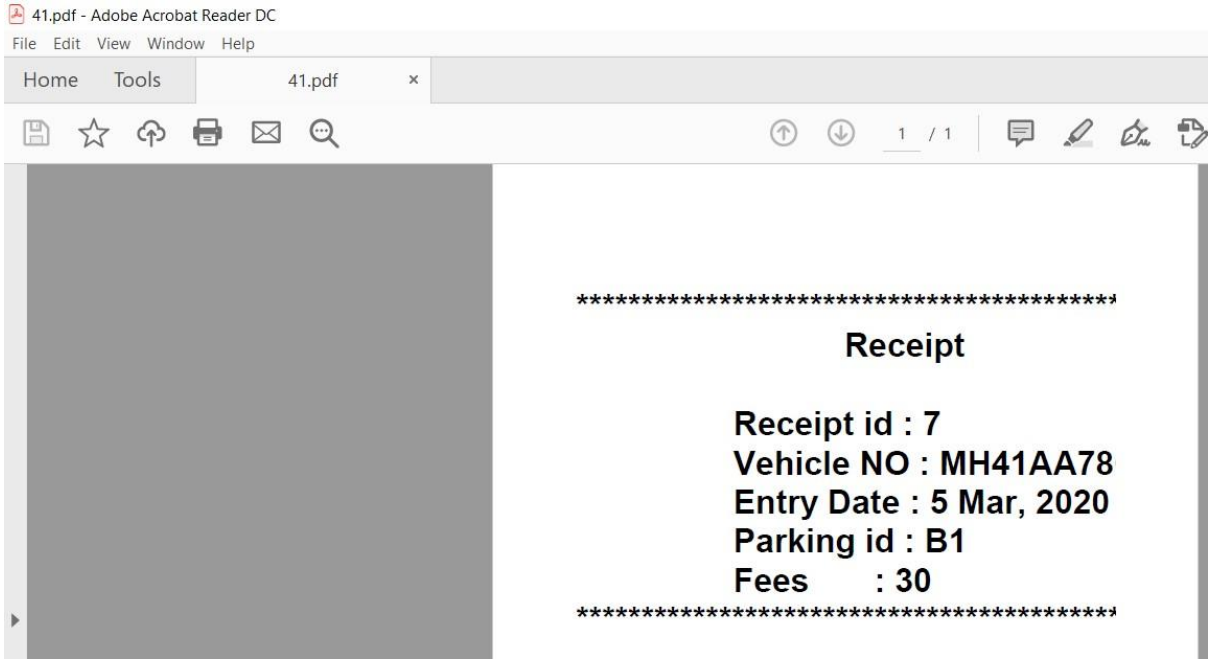
Reserved Slot with Receipt: -



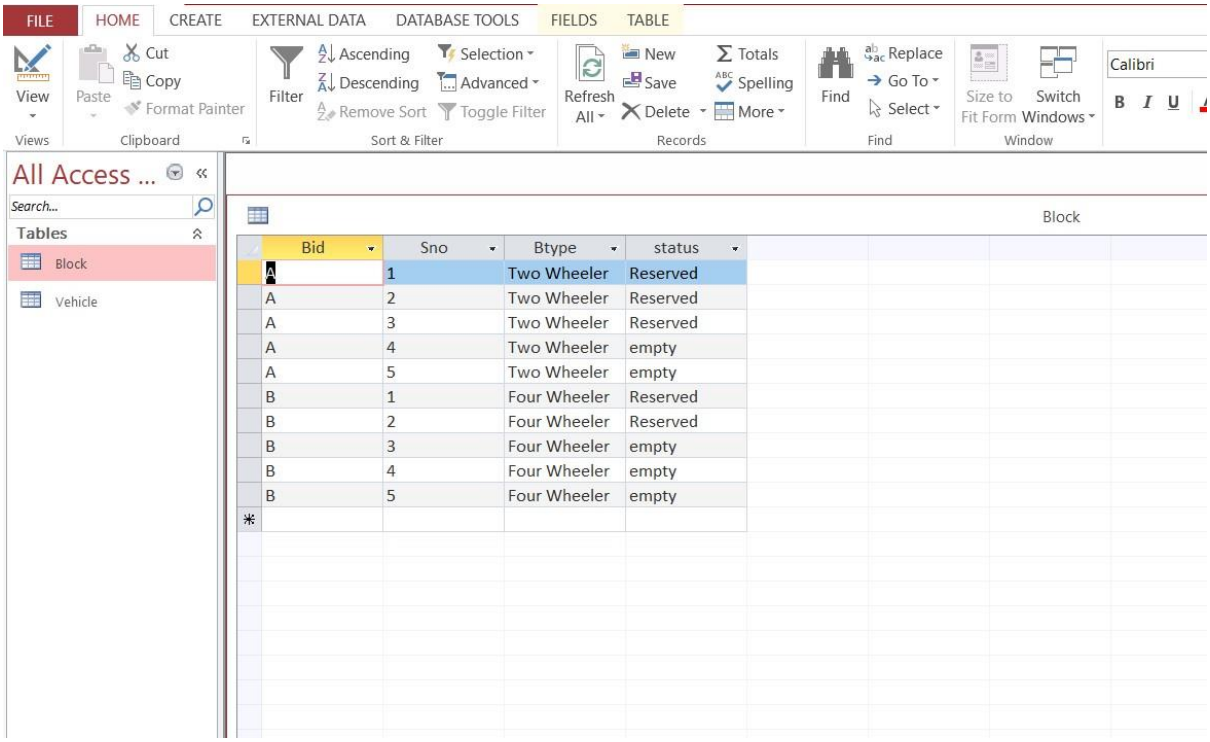


Receipts : -

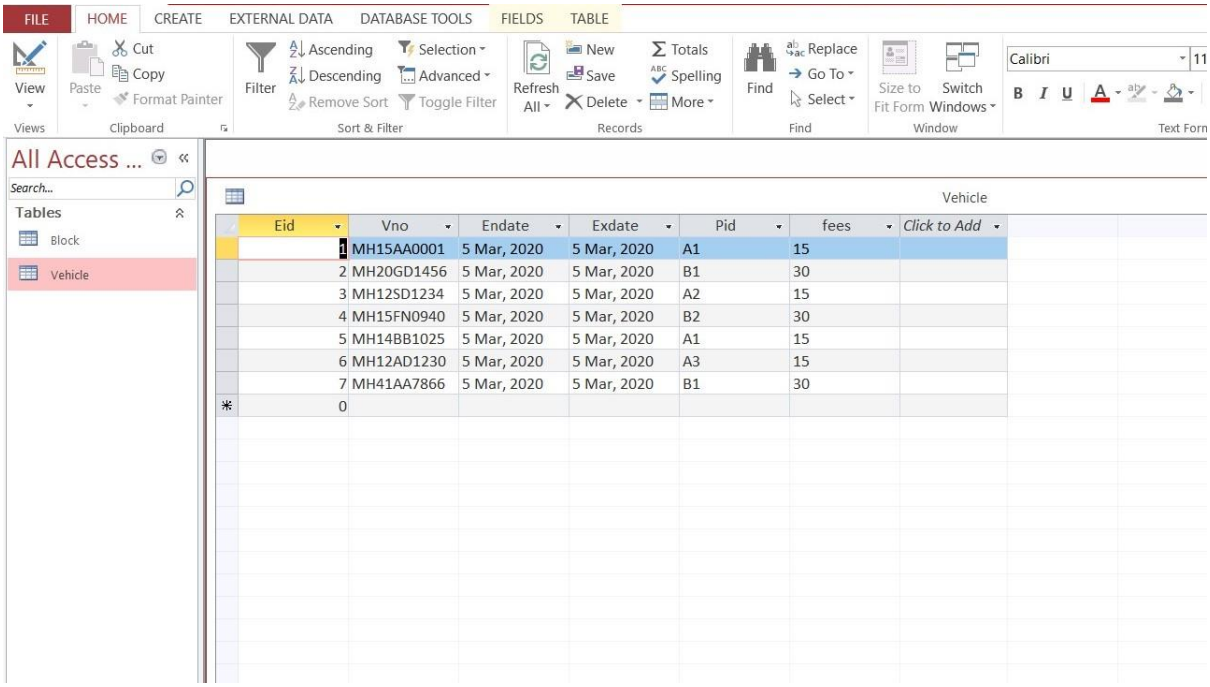

22.pdf - Adobe Acrobat Reader DC
File Edit View Window Help
Home Tools
22.pdf
1 / 1
****
Receipt
Receipt id : 6
Vehicle No : MH12AD12
Entry Date : 5 Mar, 2020
Parking id : A3
Fees : 15
****


41.pdf - Adobe Acrobat Reader DC
File Edit View Window Help
Home Tools
41.pdf
1 / 1
****
Receipt
Receipt id : 7
Vehicle NO : MH41AA78
Entry Date : 5 Mar, 2020
Parking id : B1
Fees : 30
****

Database Records: -



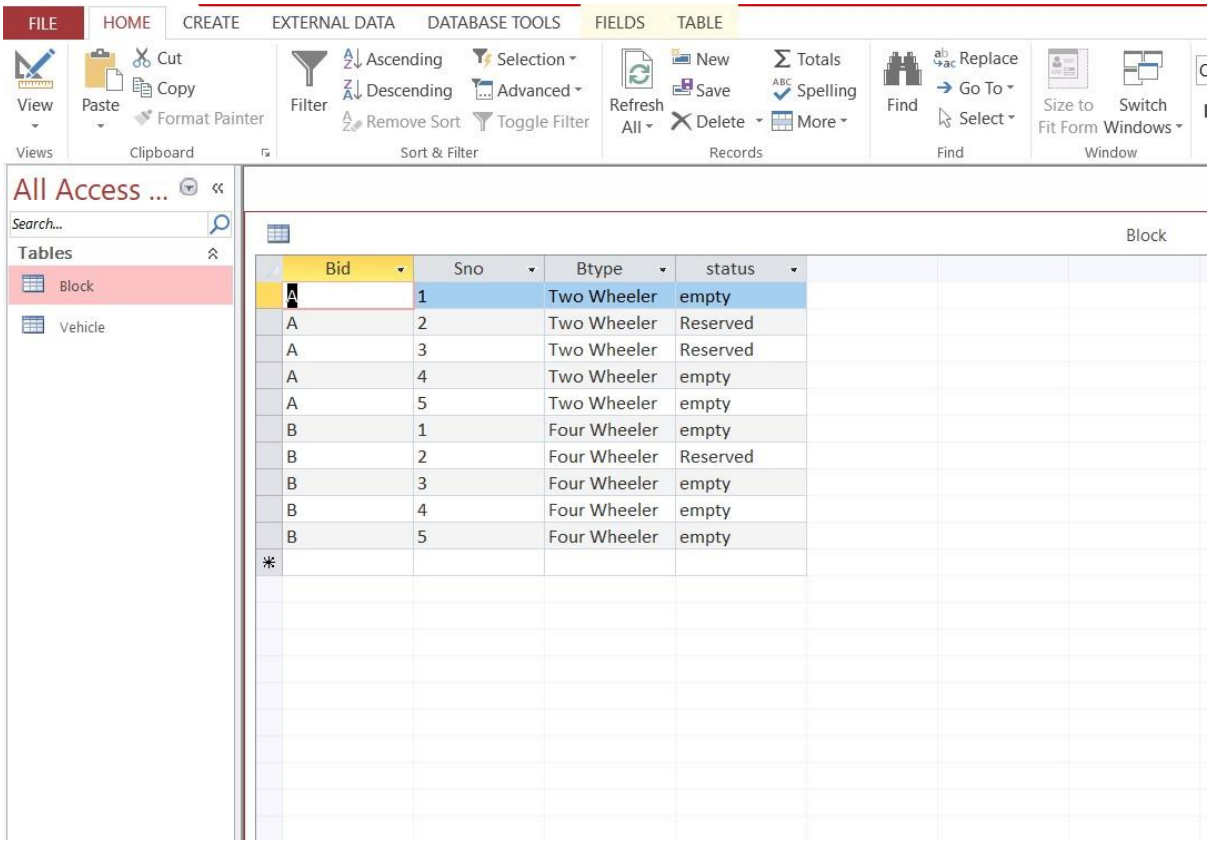
Bid	Sno	Btype	status
A	1	Two Wheeler	Reserved
A	2	Two Wheeler	Reserved
A	3	Two Wheeler	Reserved
A	4	Two Wheeler	empty
A	5	Two Wheeler	empty
B	1	Four Wheeler	Reserved
B	2	Four Wheeler	Reserved
B	3	Four Wheeler	empty
B	4	Four Wheeler	empty
B	5	Four Wheeler	empty



Eid	Vno	Endate	Exdate	Pid	fees	Click to Add
1	MH15AA0001	5 Mar, 2020	5 Mar, 2020	A1	15	
2	MH20GD1456	5 Mar, 2020	5 Mar, 2020	B1	30	
3	MH12SD1234	5 Mar, 2020	5 Mar, 2020	A2	15	
4	MH15FN0940	5 Mar, 2020	5 Mar, 2020	B2	30	
5	MH14BB1025	5 Mar, 2020	5 Mar, 2020	A1	15	
6	MH12AD1230	5 Mar, 2020	5 Mar, 2020	A3	15	
7	MH41AA7866	5 Mar, 2020	5 Mar, 2020	B1	30	
0						

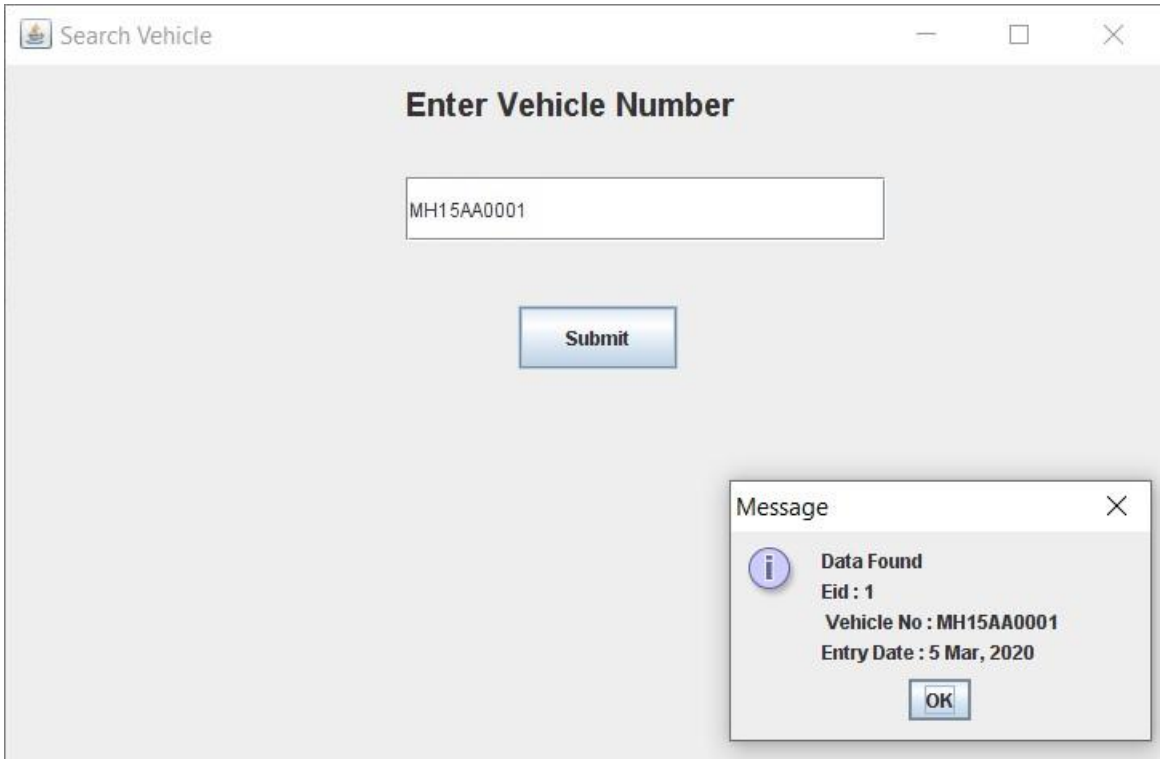
Release Slot Frame: -

Database After Released Slot: -



Bid	Sno	Btype	status
A	1	Two Wheeler	empty
A	2	Two Wheeler	Reserved
A	3	Two Wheeler	Reserved
A	4	Two Wheeler	empty
A	5	Two Wheeler	empty
B	1	Four Wheeler	empty
B	2	Four Wheeler	Reserved
B	3	Four Wheeler	empty
B	4	Four Wheeler	empty
B	5	Four Wheeler	empty

Search Vehicle Frame:-



Coding: -

```
import Parking.*;
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
import java.sql.*;

public class MainC implements ActionListener
{
    JLabel bg;
    JFrame mf;
    JMenuBar mb;
    JMenu rvslot,rlslot,ablock,search;
    JMenuItem rvtwh,rvfwh,rltwh,rlfwh,serveh,nblock;
    MainC()
    {
        mf=new JFrame("Reserve Parking Slot Management");//Main frame name
        mb=new JMenuBar();

        //set Background image
        ImageIcon img = new ImageIcon("jay.jpg");
        bg= new JLabel("",img,JLabel.CENTER);
```

```
bg.setBounds(0,0,1900,1000);
mf.add(bg);

nblock=new JMenuItem("New Block");
nblock.addActionListener(this);

rvslot=new JMenu("Reserve Slot");
rlslot=new JMenu("Release Slot");
search=new JMenu("Search Vehicle");
ablock=new JMenu("Add Block");
ablock.add(nblock);

rvtwh=new JMenuItem("Two Wheeler");
rvtwh.addActionListener(this);
rvfwh=new JMenuItem("Four Wheeler");
rvfwh.addActionListener(this);

rltwh=new JMenuItem("Two Wheeler");
rltwh.addActionListener(this);
rlfwh=new JMenuItem("Four Wheeler");
rlfwh.addActionListener(this);

serveh=new JMenuItem("Search Vehicle NO.");
serveh.addActionListener(this);
```

```
            rvslot.add(rvtwh);
            rvslot.add(rvfwh);

            rlslot.add(rltwh);
            rlslot.add(rlfwh);

            search.add(serveh);

            mb.setBounds(0,0,500,100);
            mb.add(rvslot);
            mb.add(rlslot);
            mb.add(search);
            mb.add(ablock);

            mf.add(mb);
            mf.setJMenuBar(mb);



            mf.setSize(1900,1080);
            mf.setLayout(null);
            mf.setVisible(true);

        mf.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOS
E);
```

```
}

public void actionPerformed(ActionEvent ae)
{
        if(ae.getSource()==nblock)
        {
                //Add Parking Block frame
                Ablock.adblock();
        }
        if(ae.getSource()==rvtwh)
        {
                //Reserved 2 wheeler frame
                Reserve.Reservetwowheeler();
        }
        if(ae.getSource()==rvfwh)
        {
                //Reserved 4 wheeler frame
                Reservefw.Reservefourwheeler();
        }
        if(ae.getSource()==rltwh)
        {
                //Release 2 wheeler frame
                Releasetw.Releasetwowheeler();
        }
        if(ae.getSource()==rlfwh)
```

```
            {
                //Release 4 wheeler frame
                Releasefw.Releasefourwheeler();
            }
            if(ae.getSource()==serveh)
            {
                //Search Vehicle Info Frame
                Searchv.Search();
            }
        }
        public static void main(String[] args)
        {
            new MainC();
        }
}
```

Bibliography: -

Books and websites used as a reference to provide the guidelines for analysing documenting and designing this project are,

- The Complete Reference Java Text Book of B.Sc. (Comp. Sci.)
- www.javatpoint.com
- www.tutorialspoint.com
- www.stackoverflow.com
- www.youtube.com

Special Thanks To: -

- **Prof. Amit Mogal Sir.**
- Rahul Barate.