

Internet and Web Programming

Digital Assignment – 2

-V.Maheysh

19BCE1120

Faculty:Dr. Sandhya P

Slot: A1

Question:

Design an online train ticket reservation/cancellation system using HTML and JavaScript with the following features:

- A reservation/cancellation form with suitable validation
- Event handling for checking seat availability and generating ticket number if available and a sorry message if not. Assume there are 10 tickets in each class.

Approach:

A form with inline validation for the most part has been used with CSS selectors. Validation has been done using DOM selectors for the most part along with manual verification.

Closure property has been used for keeping track of seat availability in each class-namely A1,2 TIER AC,3 TIER AC and SLEEPER.Each of these have 10 tickets which on booking generate a ticketed.

This unique feature makes cancellation easy by restoring the tickets corresponding th that respective ticketed. Each class has a unique ticket id like -A11000,2T1001,3T1002,S1003...,which has a feature in place to make sure that a valid cancellation can be done only once.

Source Code:

```
<html>

<head>

<title>Railway Ticket Booking</title>

<style>

    input:invalid{
        box-shadow: 0 0 5px 1px red;

    }
    input:valid{
        border: 2px solid black;
    }


    *{
        font-family: monospace;
        font-size: 16px;
    }
    body{
        background-image:
url('https://www.technologyforyou.org/wp-
content/uploads/2020/01/railways22.jpg');
        background-size: cover;
    }
    h1{
```

```
        background-image: linear-gradient(to
right,orange,yellow);
        padding-top: 20px;
        padding-bottom: 20px;
        font-size: 24px;
        text-align: center;
    }
    #form-ele{
```

```
        background-image: linear-gradient(to
right,#ddd6f3,#faaca8);
        box-shadow: 2px 2px 4px #000000;
        opacity:0.9;
        text-align:center;
        margin-top: 100px;
        margin-bottom: 100px;
        margin-left: 100px;
        margin-right: 100px;
        padding-left: 100px;
        padding-right: 100px;
        padding-top: 100px;
        padding-bottom: 100px;
    }
```

```
#form{
    opacity:0.9;
}
#username{
    opacity:0.9;
}
```

```
#Log-In{
    padding-left: 35px;
    padding-right: 35px;
    padding-top: 10px;
    padding-bottom: 10px;
    background-image: radial-gradient(#B2FEFA,#0ed2f7);
}
</style>

<script>
    //Inline validation functions
    function afk()
    {
        //i();
        alert("Inside afk");
        validate();
    }
    function validate()
    {

if(document.getElementById("from").validity.valueMissing)
    {
        from_missing.innerHTML="Tname Must";
        document.getElementById("from").focus();
        alert("FILL UP ALL THE DETAILS");
    }

    }
```

```

function namez()
{
    var uname=document.f.uname.value;
    //var uname=document.getElementById("uname").value();
    if(uname=="")
    {
        name_missing.innerHTML="Name required";
        //document.uname.focus();
        document.getElementById("uname").focus();
    }
    else{
        name_missing.innerHTML="";
    }
}

function phone_number()
{
    var phoneno = /^\\d{10}$/;

    if(document.getElementById("phno").validity.rangeUnderflow)
    {
        phno_missing.innerHTML="Please input valid phone
number";
        document.getElementById("phno").focus();
    }

    else if
(!document.getElementById("phno").value.match(phoneno)) {
        document.getElementById("phno").focus();
        phno_missing.innerHTML="Mobile no not in correct
format";
    }
}

```

```
        else{
            phno_missing.innerHTML="";
        }
    }

function fromz()
{
    var frm=document.f.from.value;
    //var frm=document.getElementById("from").value;
    if(frm=="")
    {

document.getElementById("from_missing").innerHTML="Please
input from location";

        document.getElementById("from").focus();
    }
    else{
        from_missing.innerHTML="";
    }

}

function toz()
{
    var to=document.getElementById("to").value;
    if(to=="")
    {
        alert("Enter the destination location");
        document.getElementById("to").focus();
    }
}
```

```

function ticketz()
{

if(document.getElementById("seats").validity.rangeUnderflow)
{
    seats_missing.innerHTML="Please input valid ticket
count";
    document.getElementById("seats").focus();
}
else{
    seats_missing.innerHTML="";
}

}

function ckcancelz()
{
    ans=document.getElementById("check_cancel").value;
    if(ans=='Y' || ans=='N')
    {
        cancel_missing.innerHTML="";
    }
    else{
        cancel_missing.innerHTML="Please input either Y or
N";
        document.getElementById("check_cancel").focus();
    }
}

//Closure functions
function outer()

```



```
{
    //count=10;
    countA1=10;
    count_2TIERAC=10;
    count_3TIERAC=10;
    count_SLEEPER=10;
    tktno=1000;
    var arr={};
    function inner()
    {
        var seatsbkd=document.getElementById("seats").value;
        var
train_class=document.getElementById("train_class").value;

        //Test code
        // alert(countA1);
        // alert(count_2TIERAC);
        // alert(count_3TIERAC);
        // alert(count_SLEEPER);

        //Validation

if(document.getElementById("seats").validity.rangeUnderflow)
    {
        alert("Seats less than 0,input wrong");
        exit();
    }
    else
if(document.getElementById("seats").validity.typeMismatch)
    {
```

```

        alert("Enter number,input wrong");
    }

    //FOR cancellation
    else
    if(document.getElementById("check_cancel").value=='Y')
    {
        alert("Cancellation is underway");
        var
cancel=document.getElementById("cancellation").value
        // for(cancel in arr)
        // {
        //     alert(arr[cancel])
        // }
        alert(arr[cancel]); //CHK IF PRESENT
        //alert(cancel[0]);
        //alert(arr[0]);
        // if(arr[cancel] in arr)
        // {
        //     alert(arr[cancel]);
        // }
        if(arr[cancel]<0)//arr[cancel]>0 prevents undefined
vals to be wrongly cancelled
        {
            alert("Invalid");
        }
        else if(cancel[0]=='A')
        {
            countA1=countA1-(-arr[cancel]);
            alert("Tickets left in A1:"+countA1);
            arr[cancel]=0;//Prevents further misuse by multiple
cancellation

```

```
        alert("Cancellation completed successfully");
    }

    else if(cancel[0]=='2')
    {
        count_2TIERAC=count_2TIERAC-(-arr[cancel]);
        alert("Tickets left in 2 TIER AC:"+count_2TIERAC);
        arr[cancel]=0;//Prevents further misuse by multiple
cancellation
        alert("Cancellation completed successfully");
    }

    else if(cancel[0]=='3')
    {
        count_3TIERAC=count_3TIERAC-(-arr[cancel]);
        alert("Tickets left in 3 TIER AC:"+count_3TIERAC);
        arr[cancel]=0;//Prevents further misuse by multiple
cancellation
        alert("Cancellation completed successfully");
    }

    else if(cancel[0]=='S')
    {
        count_SLEEPER=count_SLEEPER-(-arr[cancel]);
        alert("Tickets left in Sleeper:"+count_SLEEPER);
        arr[cancel]=0;//Prevents further misuse by multiple
cancellation
        alert("Cancellation completed successfully");
    }
}
```

```
//Ticket closure for each class
else{

//alert(document.getElementById("check_cancel").value);

    alert("You have booked in "+train_class);
    alert("Seats to be booked:"+seatsbkd);
    //Separate case for each class
    if(train_class=="A1")
    {
        countA1=countA1-seatsbkd;
        if(countA1<0)
        {
            countA1=countA1-(-seatsbkd);
            alert("Sorry!Request not possible, as Seats
left:"+countA1);
        }
        else{
            alert("Seats left:"+countA1);
            alert("Seats booked successfully");
            arr['A1'+tktno]=seatsbkd;
            alert('Note down your ticket number:
'+ 'A1'+(tktno)); //TICKET NO for future cancellation purposes
            //alert('Note down your ticket
number: '+arr['3TAC'+(tktno)]);
            tktno=tktno-(-1);
            //alert(tktno);
        }
    }
    else if (train_class=="2 Tier AC")
    {
        count_2TIERAC=count_2TIERAC-seatsbkd;
```

```
        if(count_2TIERAC<0)
        {
            count_2TIERAC=count_2TIERAC-(-seatsbkd);
            alert("Sorry!Request not possible, as Seats
left:"+count_2TIERAC);
        }
        else{
            alert("Seats left:"+count_2TIERAC);
            alert("Seats booked successfully!");
            arr['2TAC'+tktno]=seatsbkd;
            alert('Note down your ticket number:
'+ '2TAC'+(tktno));
            //alert('Note down your ticket
number: '+arr['3TAC'+(tktno)]);
            tktno=tktno-(-1);
            //alert(tktno);
        }

    }

    else if (train_class=="3 Tier AC")
    {
        count_3TIERAC=count_3TIERAC-seatsbkd;
        if(count_3TIERAC<0)
        {
            count_3TIERAC=count_3TIERAC-(-seatsbkd);
            alert("Sorry!Request not possible, as Seats
left:"+count_3TIERAC);
        }
        else{
            alert("Seats left:"+count_3TIERAC);
            alert("Seats booked successfully!");
```

```
        arr['3TAC'+tktno]=seatsbkd;
        alert('Note down your ticket number:
'+'3TAC'+(tktno));
        //alert('Note down your ticket
number: '+arr['3TAC'+(tktno)]);
        tktno=tktno-(-1);
        //alert(tktno);
    }
}
else if (train_class=="Sleeper")
{
    count_SLEEPER=count_SLEEPER-seatsbkd;
    if(count_SLEEPER<0)
    {
        count_SLEEPER=count_SLEEPER-(-seatsbkd);
        alert("Sorry!Request not possible, as Seats
left: "+count_SLEEPER);
    }
    else{
        alert("Seats left: "+count_SLEEPER);
        alert("Seats booked successfully!");

        //var ticket_no+={S+tktno,seatsbkd};

        arr['S'+tktno]=seatsbkd;
        alert('Note down your ticket number: '+'S'+(tktno));
        //alert('Note down your ticket
number: '+arr['S'+(tktno)]);
        tktno=tktno-(-1);
        //alert(tktno);
        //alert(arr['S'+(tktno)]);
    }
}
```

```

        }
    }

}

    }
    return inner;
}
var i=outer();
</script>

</head>

<body>
    <h1>Reservation for Chennai Express</h1>
    <marquee>A government run,government owned railway booking
service</marquee>
    <div id="form-ele">
        <!-- <form name="f" onsubmit="i()"> -->
        <form name="f" >
            <span class="nname">Enter Name:</span>
            <br>
            <input type="text" name="uname" id="uname"
onblur="namez()" required><br>
            <div id="name_missing"></div>

            <span class="emailz">Email Address:</span>
            <br>
            <input type="email" required>
            <br>

```

```
<span class="pno">Phone Number:</span>
<br>
<input type="number" id="phno" min=0
onblur="phone_number()" required>
<br>
<div id="phno_missing"></div>

<span class="head">From:</span>

<br>
<input type="text" id="from" placeholder="E.g) Chennai"
onblur="fromz()" required><br>
<div id="from_missing"></div>
<span class="head">To:</span>
<br>
<input type="text" id="to" onblur="toz()"
placeholder="E.g) Delhi" required><br>

<span class="tcls">Enter the class:</span>
<br>
<select name="train_class" id="train_class" required>
  <option value=""></option>
  <option value="A1">A1</option>
  <option value="2 Tier AC">2 Tier AC</option>
  <option value="3 Tier AC">3 Tier AC</option>
  <option value="Sleeper">Sleeper</option>
</select><br>

<span class="ticketz">Enter the number of tickets to be
reserved:</span>
<br>
```



```

        <input type="number" id="seats" required min=1
onblur="ticketz()"><br>
        <div id="seats_missing"></div>

        <h2>For cancellation fill these additional columns: </h2>
        Do you want to cancel a booked ticket?(Y/N)<br>
        <input type="text" id="check_cancel"
onblur="ckcancelz()"><br>
        <div id="cancel_missing"></div>
        <span class="ticketz">Enter the ticketid for cancellation
</span><br>
        <input type="text" id="cancellation"><br>

        <input type="checkbox" required>I have read the terms and
conditions<br>
        <br>
        <input type="button" id="Log-In" onclick="i()" value="Book
Ticket">

        <!-- <input type="submit" onclick="i()" value="Book
Ticket"> -->

        <!-- <input type="submit" onclick="afk()" value="Book
Ticket"> TRYING-->

</form>
</div>

</body>
</html>

```

OUTPUT:

The website:

The screenshot shows a web browser window with the address bar displaying the file path: `C:/Users/Maheysh%20V/Desktop/STUDY/1WP%20Theory/DA2/reservation1.html?uname=Maheysh&train_class=3+Tier+AC`. The page title is "Reservation for Chennai Express". Below the title, there is a subtitle: "A government run,government owned railway booking service". The main content area features a background image of a train and a large red circular logo with the text "INDIAN RAILWAYS" and "भारतीय रेल". Overlaid on this is a form with the following fields and labels:

- Enter Name:
- Email Address:
- Phone Number:
- From: (with example text "E.g)Chennai")
- To: (with example text "E.g)Delhi")
- Enter the class:
- Enter the number of tickets to be reserved:
- For cancellation fill these additional columns:
- Do you want to cancel a booked ticket?(Y/N)
- Enter the ticketid for cancellation
- ☐ I have read the terms and conditions

At the bottom of the form is a blue button labeled "Book Ticket".

Form Validation:

Onblur Name:

This screenshot shows the same form as the previous one, but with a validation error. The "Enter Name:" field is highlighted with a red border, and a red error message "Name required" is displayed below it. The rest of the form and the background image are the same as in the previous screenshot.

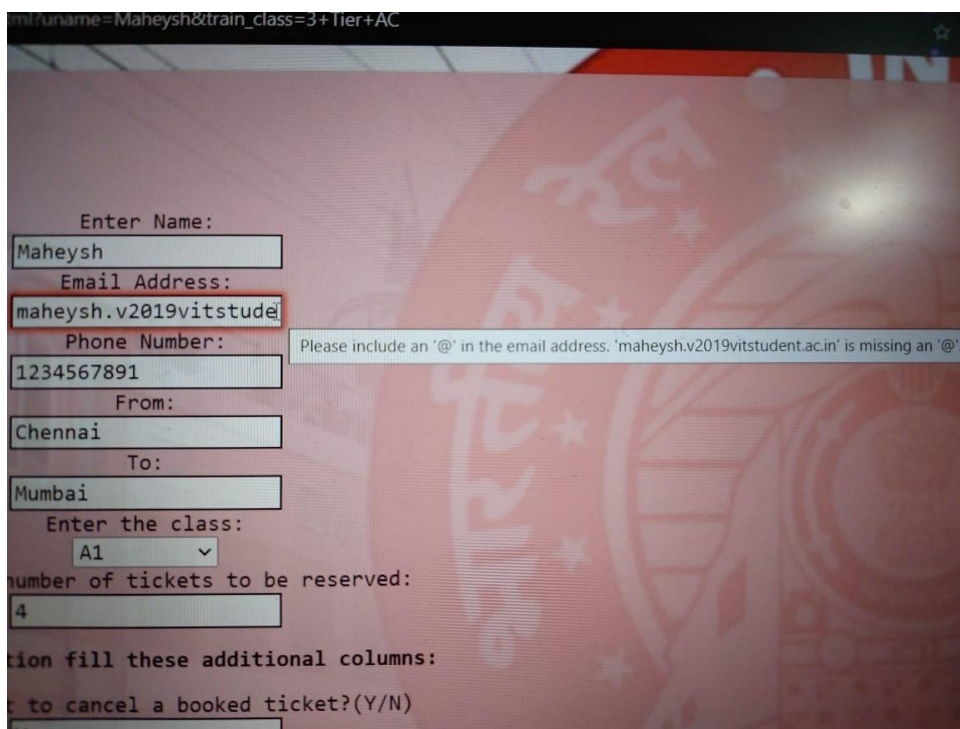
On Entering valid name:



Enter Name:
Maheysh
Email Address:

Phone Number:

Email message validation:



Enter Name:
Maheysh
Email Address:
maheysh.v2019vitstude
Phone Number:
1234567891
From:
Chennai
To:
Mumbai
Enter the class:
A1
number of tickets to be reserved:
4
Additional fill these additional columns:
to cancel a booked ticket?(Y/N)

Please include an '@' in the email address. 'maheysh.v2019vitstudent.ac.in' is missing an '@'.

Onblur On not entering a 10 digit phone number:



Enter Name:
Maheysh
Email Address:
maheysh.v2019@vitstud
Phone Number:
123456
Mobile no not in correct format

Onblur from location:



Enter Name:
Maheysh

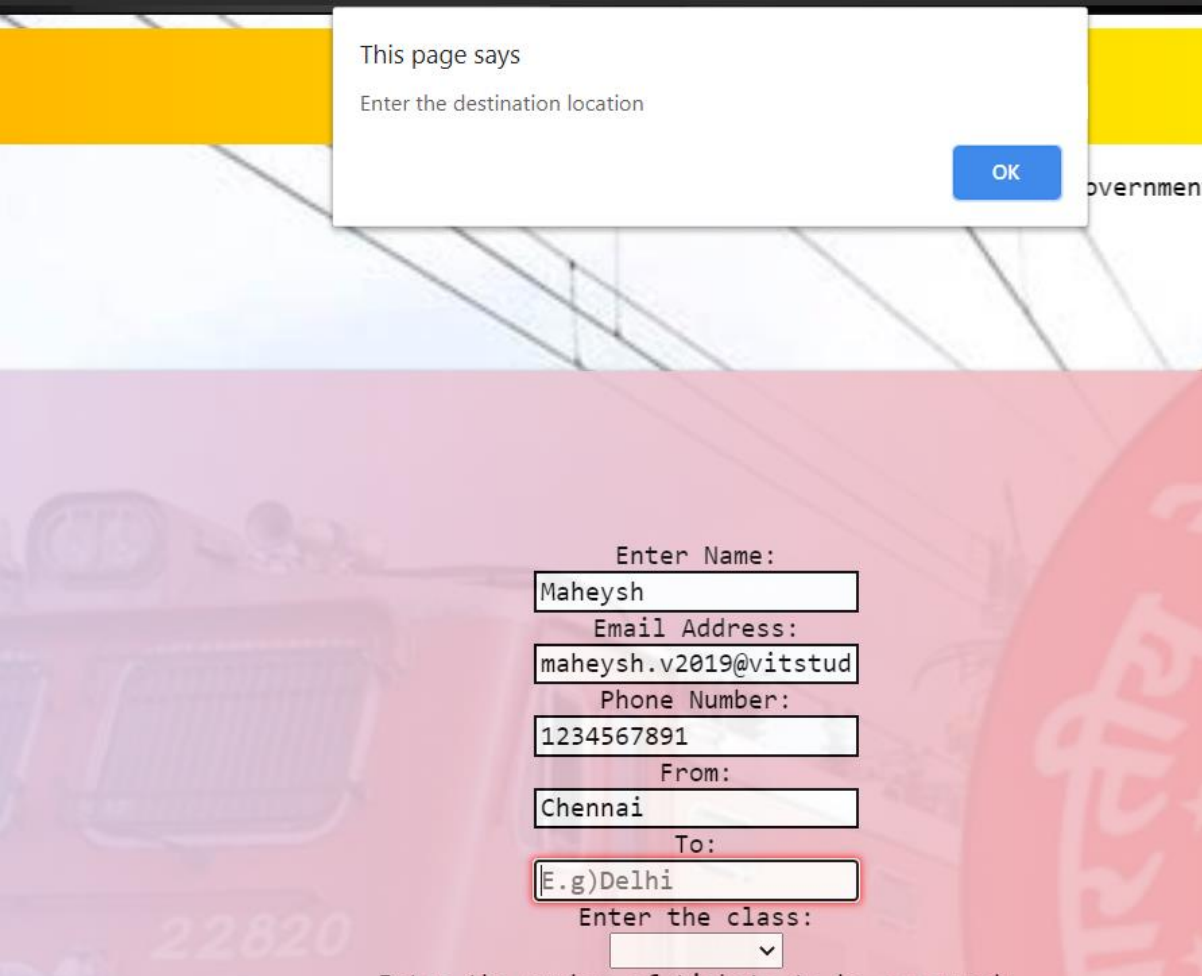
Email Address:
maheysh.v2019@vitstud

Phone Number:
1234567891

From:
E.g)Chennai

Please input from location

Onblur to location(alert message pops up):



This page says
Enter the destination location

OK

Enter Name:
Maheysh

Email Address:
maheysh.v2019@vitstud

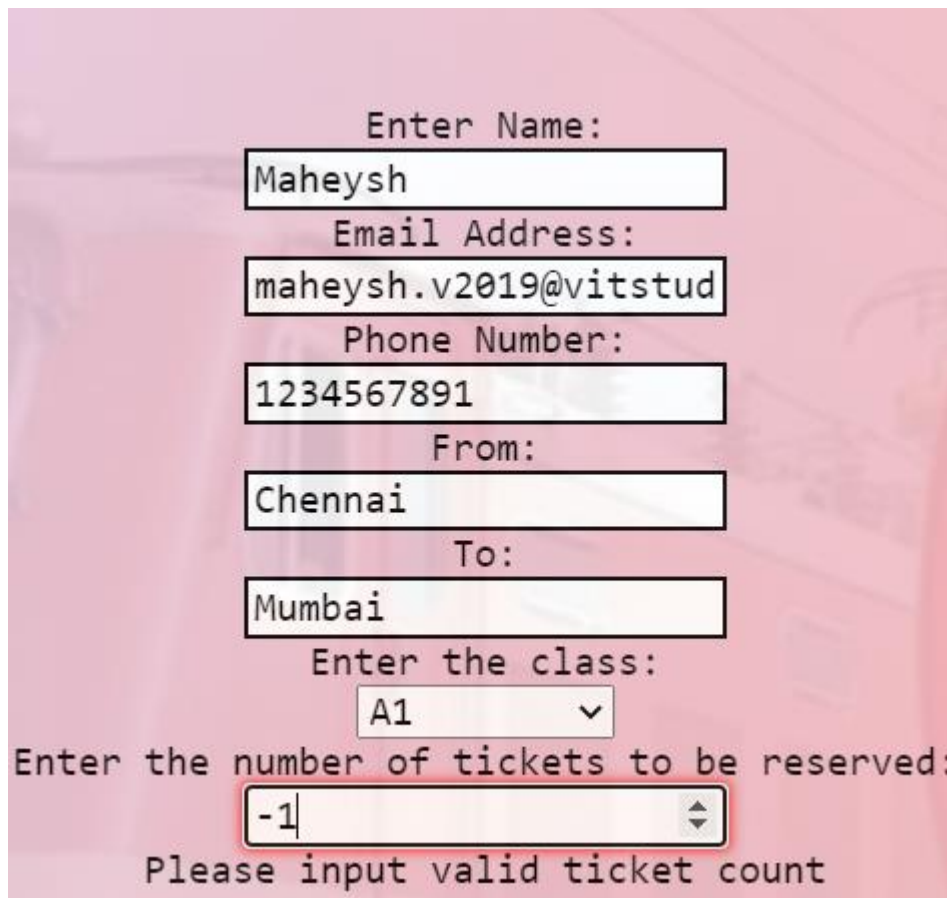
Phone Number:
1234567891

From:
Chennai

To:
E.g)Delhi

Enter the class:
▼

Onblur On entering an invalid ticket format:



Enter Name:
Maheysh

Email Address:
maheysh.v2019@vitstud

Phone Number:
1234567891

From:
Chennai

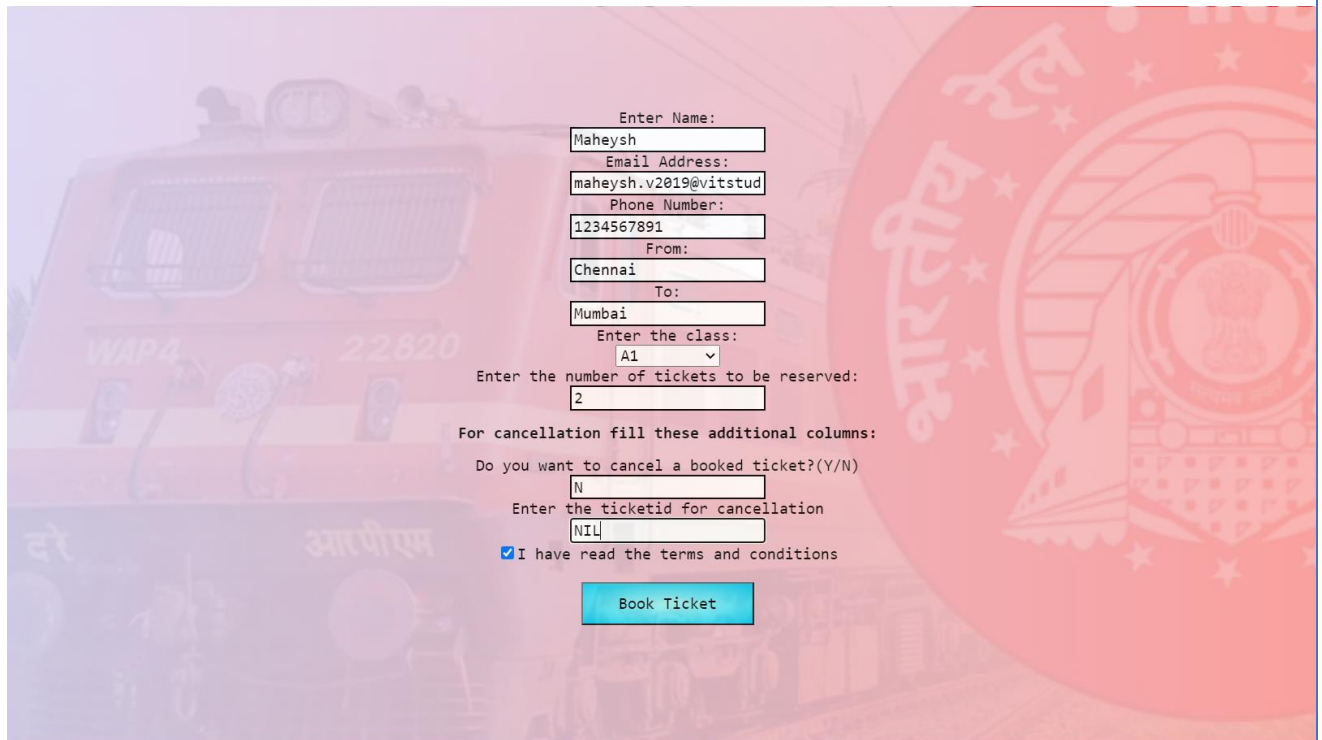
To:
Mumbai

Enter the class:
A1

Enter the number of tickets to be reserved:
-1

Please input valid ticket count

Before Submission:



Enter Name:
Maheysh

Email Address:
maheysh.v2019@vitstud

Phone Number:
1234567891

From:
Chennai

To:
Mumbai

Enter the class:
A1

Enter the number of tickets to be reserved:
2

For cancellation fill these additional columns:

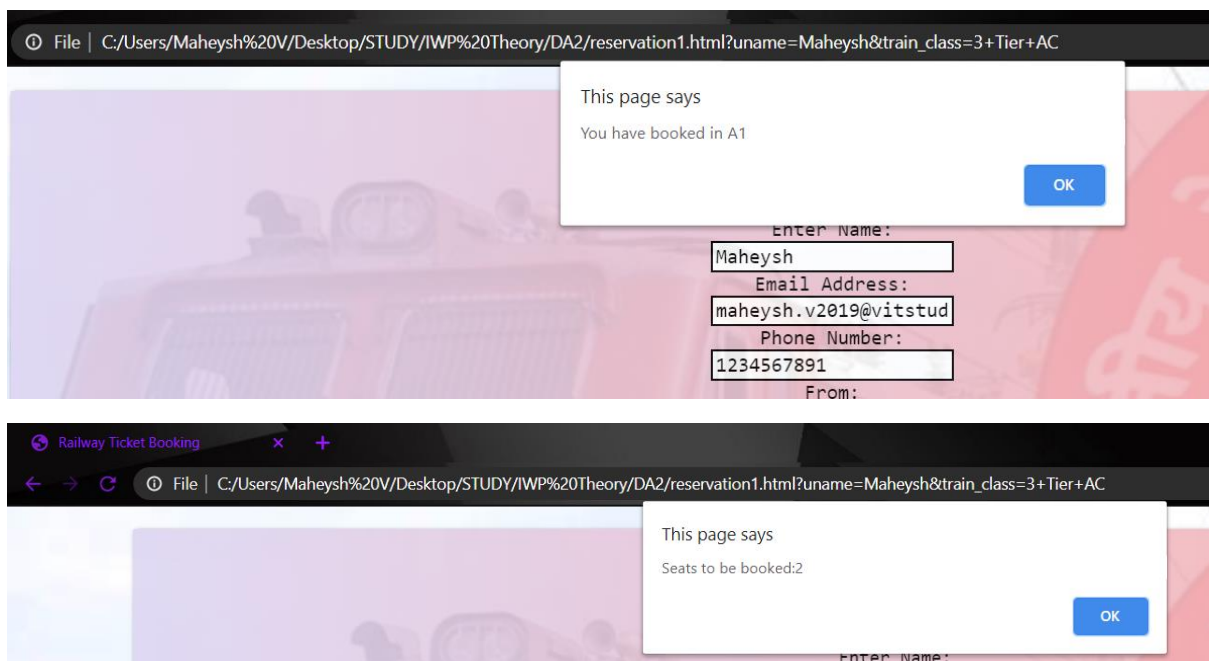
Do you want to cancel a booked ticket?(Y/N)
N

Enter the ticketid for cancellation
NIL

☒ I have read the terms and conditions

Book Ticket

On Submission:



File | C:/Users/Maheysh%20V/Desktop/STUDY/IWP%20Theory/DA2/reservation1.html?uname=Maheysh&train_class=3+Tier+AC

This page says
You have booked in A1

OK

Enter Name:
Maheysh

Email Address:
maheysh.v2019@vitstud

Phone Number:
1234567891

From:

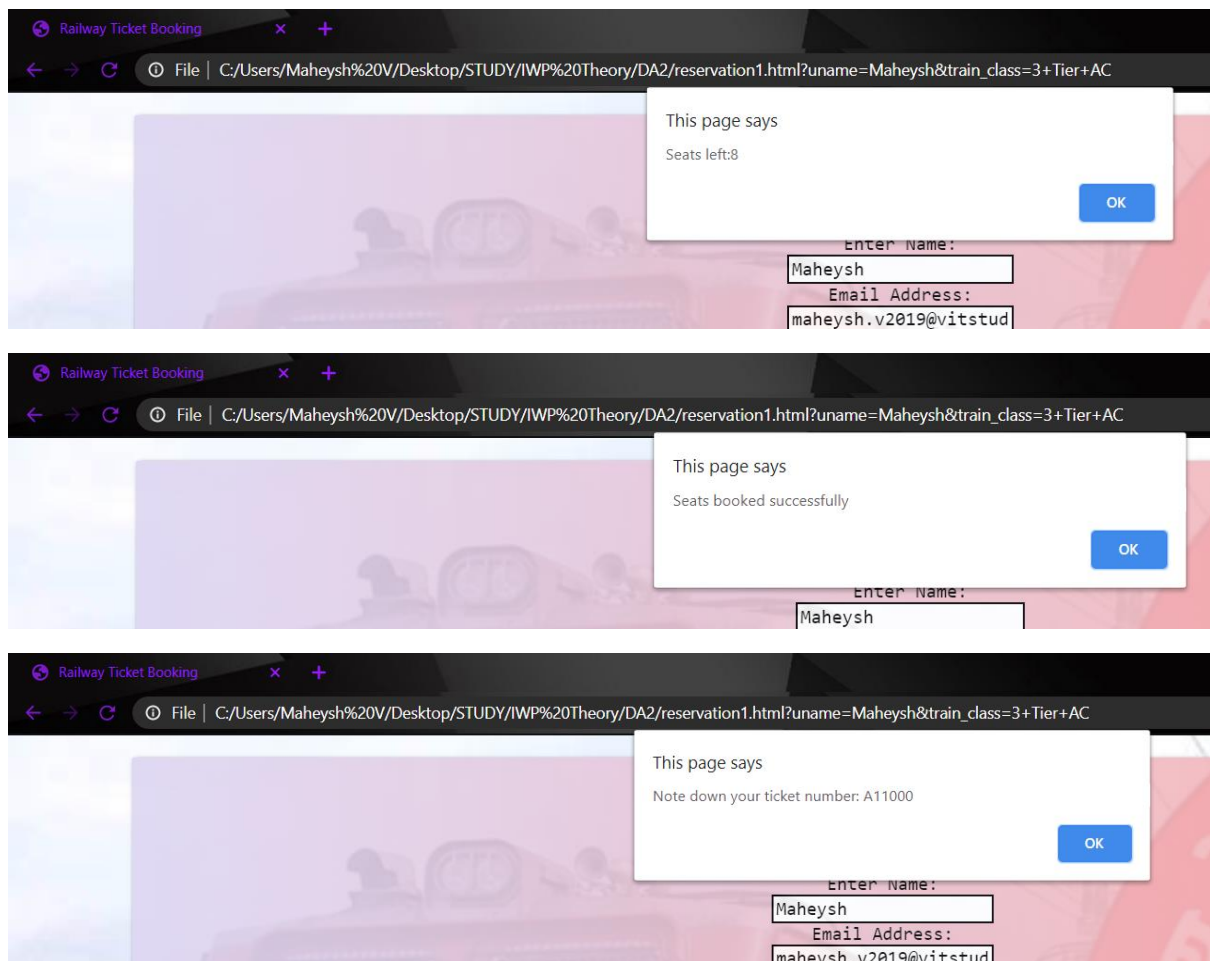
Railway Ticket Booking

File | C:/Users/Maheysh%20V/Desktop/STUDY/IWP%20Theory/DA2/reservation1.html?uname=Maheysh&train_class=3+Tier+AC

This page says
Seats to be booked:2

OK

Enter Name:



On continuing with this input(to check closure):

Enter Name:
Maheysh

Email Address:
maheysh.v2019@vitstud

Phone Number:
1234567891

From:
Chennai

To:
Mumbai

Enter the class:
A1

Enter the number of tickets to be reserved:
4

For cancellation fill these additional columns:

Do you want to cancel a booked ticket?(Y/N)
N

Enter the ticketid for cancellation
NIL

☒ I have read the terms and conditions

Book Ticket

We get:

File | C:/Users/Maheysh%20V/Desktop/STUDY/IWP%20Theory/DA2/reservation1.html?uname=Maheysh&train_class=3+Tier+AC

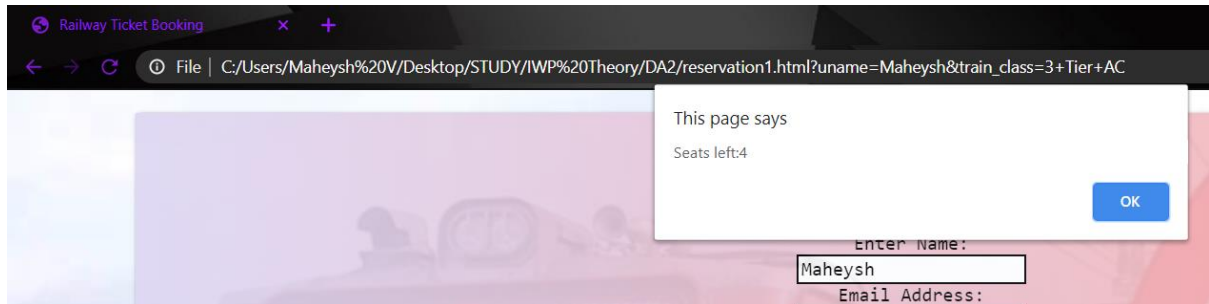
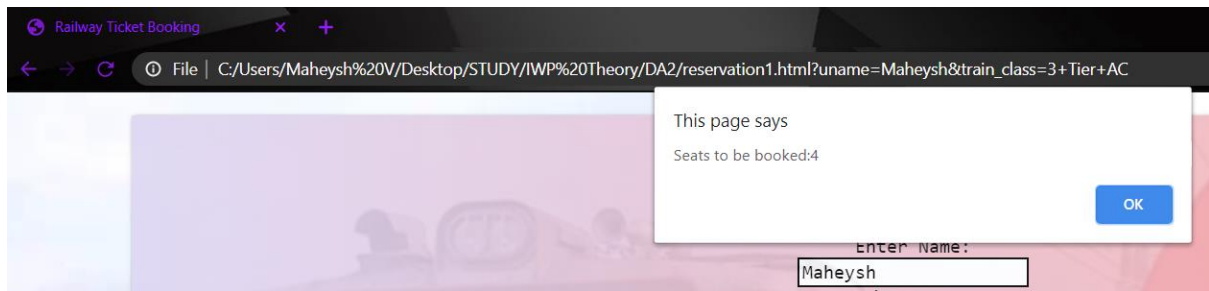
This page says
You have booked in A1
OK

Enter Name:
Maheysh

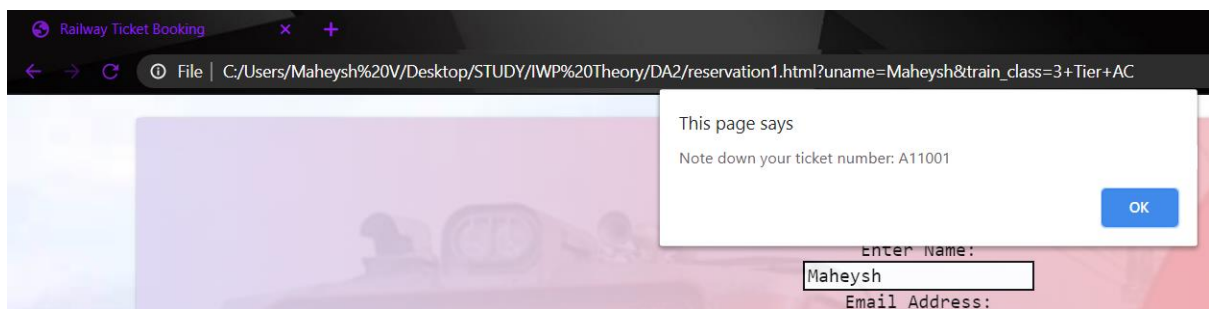
Email Address:
maheysh.v2019@vitstud

Phone Number:
1234567891

From:



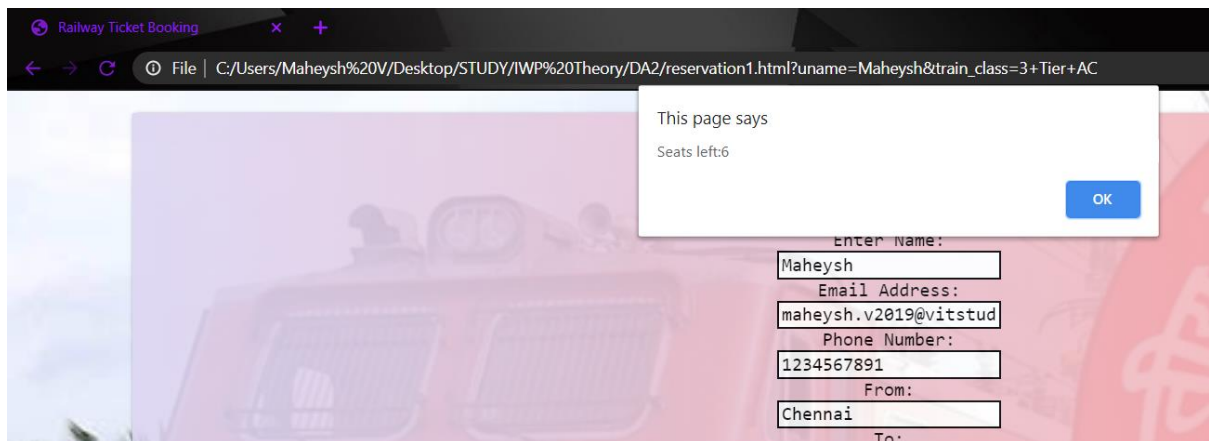
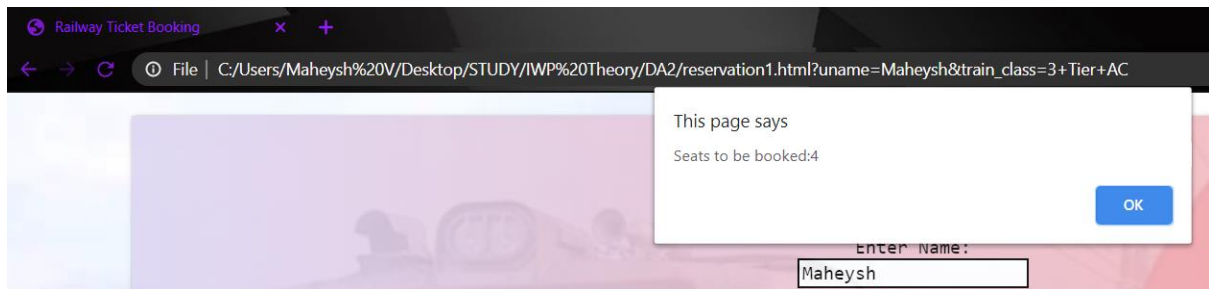
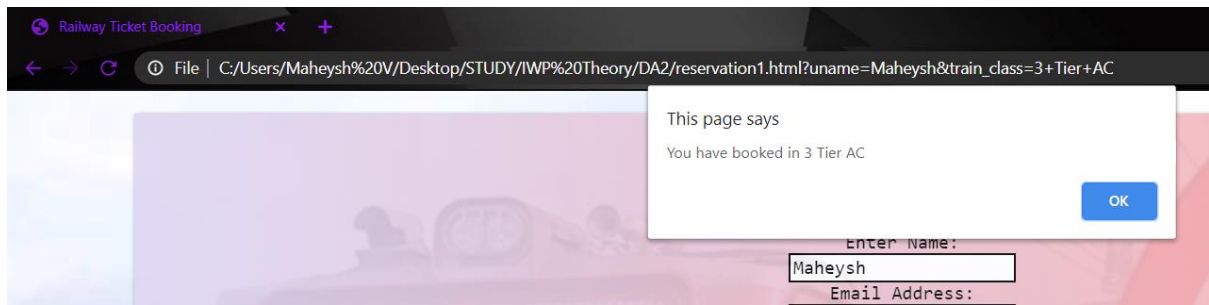
[10-2(last time)-4(this time)=4 seats left]



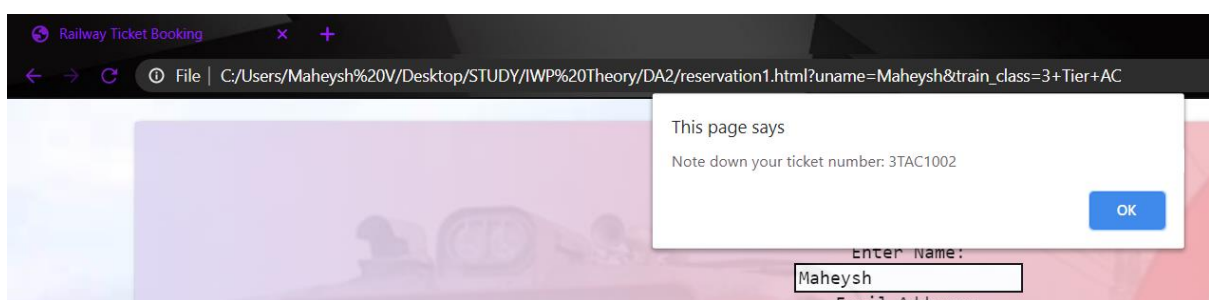
Next trying 3 tier AC:

A screenshot of the 'Railway Ticket Booking' page showing the full booking form. The form includes the following fields and options:

- Enter Name: Maheysh
- Email Address: maheysh.v2019@vitstud
- Phone Number: 1234567891
- From: Chennai
- To: Mumbai
- Enter the class: 3 Tier AC (selected)
- Enter the number of tickets to be reserved: 4
- For cancellation fill these additional columns:
- Do you want to cancel a booked ticket?(Y/N): N
- Enter the ticketid for cancellation: NIL
- ☒ I have read the terms and conditions
- Book Ticket button



[Each class has its separate counter verified]



Cancellation:

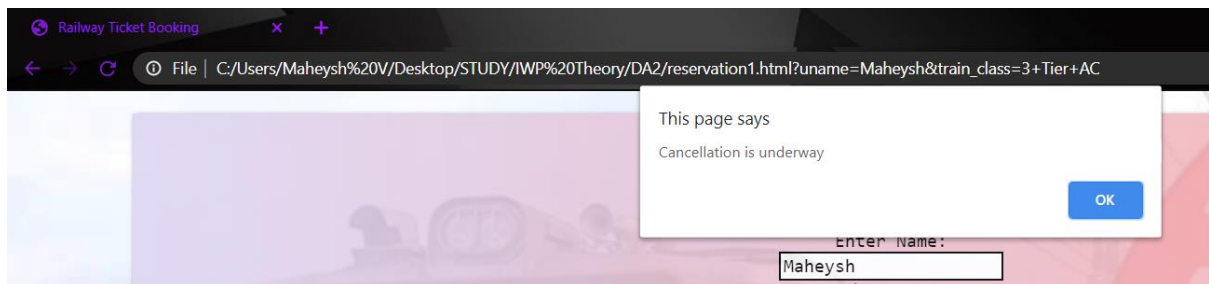
For cancellation fill these additional columns:

Do you want to cancel a booked ticket?(Y/N)

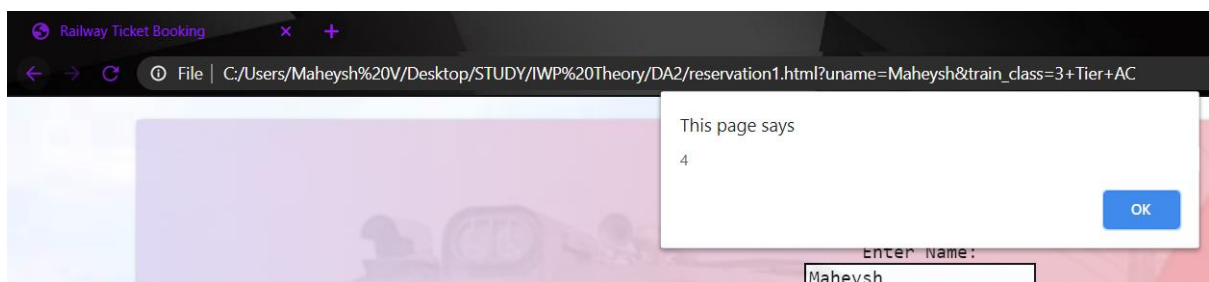
Enter the ticketid for cancellation

☒ I have read the terms and conditions

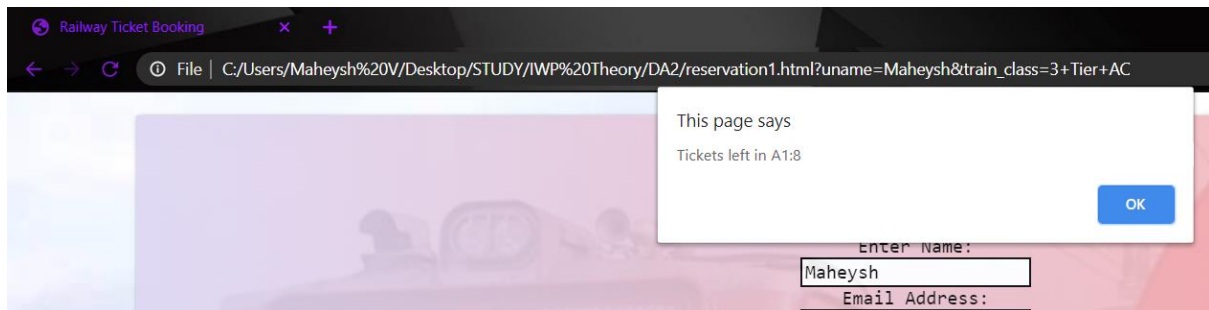
Gives:



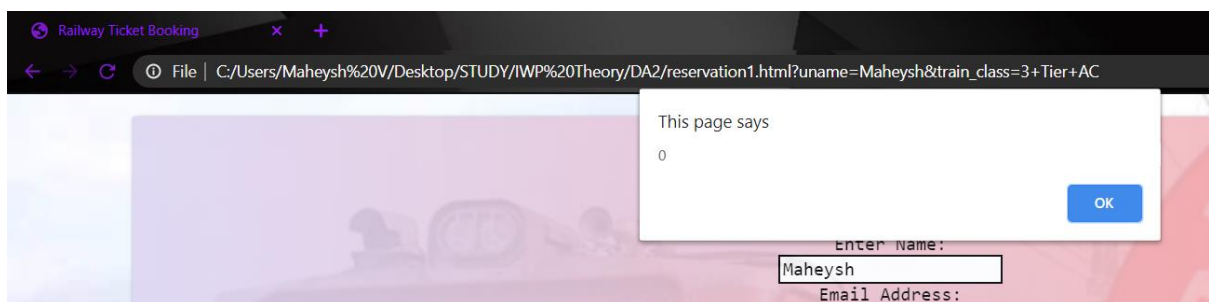
Ticketcount to be restored under given ticket:



After adding back 4 tickets, total count comes to 8(2 already booked under A11000)-verifying the system works as a whole!



If same ticket id inputed again, ticketcount is reset to 0 to avoid multi cancellation



Final Message:

Browser: Railway Ticket Booking
URL: C:/Users/Maheysh%20V/Desktop/STUDY/WP%20Theory/DA2/reservation1.html?uname=Maheysh&train_class=3+Tier+AC

This page says
Cancellation completed successfully
OK

Enter Name: Maheysh
Email Address: maheysh.v2019@vitstud
Phone Number: 1234567891
From: Chennai
To: Mumbai
Enter the class: A1
Enter the number of tickets to be reserved: 4

For cancellation fill these additional columns:

Do you want to cancel a booked ticket?(Y/N)
Y

Enter the ticketid for cancellation
A11001

☒ I have read the terms and conditions

Book Ticket