1. **Local Storage** :

* **Introduction of Local Storage :**

Local storage is alternative to cookies, that can be used to store data in client’s browser. Thus, it’s more secure way and efficient way to store large amount of data compared to data stored in cookies. It has two objects : 1. window.localStorage 2. window.sessionStorage. Using these objects we can store, retrieve and remove data to and from local storage.

* **Programming Question :**

Design a webpage that can perform three functions: store data to Local Storage, retrieve data from local storage and remove data from local storage.

* **Code :**

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<meta name=*"Author"* content=*"Vishweshkumar Patel"*>

<meta name=*"Description"* content=*"Homework\_1\_CMPE\_273 : HTML Local Storage"*>

<meta name=*"keyword"* content=*" HTML, CSS, JavaScript, Local Storage"*>

<meta name=*"last modified"* content=*"Sept 3,2017"*>

<meta name=*"viewport"* content=*"width=device-width; initial-scale=1.0"*>

<meta http-equiv=*"refresh"* content=*"120"*>

<title> HTML LocalStorage </title>

<style type=*"text/css"*>

**header,** **footer,** **section,** **article**{

display: *block*;

}

</style>

<script type=*"text/javascript"*>

**function** storeData(){

**var** name = document.getElementById("inputDataName");

**var** value = document.getElementById("inputDataValue");

**if** (**typeof**(Storage) !== "undefined") {

localStorage.setItem(name.value,value.value);

document.getElementById("s\_message").innerHTML = " Variable = "+name.value+" with value = "+value.value+" is stored to Local Storage. <br/> <br/>";

} **else** {

document.getElementById("result").innerHTML = "Sorry, your browser does not support Web Storage...";

}

}

**function** retrieveData(){

**var** nameObject = document.getElementById("outputDataName");

**var** name = nameObject.value;

**if** (**typeof**(Storage) !== "undefined") {

**var** value = localStorage.getItem(name);

document.getElementById("outputDataValue").value = value;

**if**(value==**null**){

document.getElementById("r\_message").innerHTML = " Variable = "+name+" is not present in Local Storage. " ;

}

**else**{

document.getElementById("r\_message").innerHTML = " Variable = "+name+" with value = "+value+" is retrieved from Local Storage. <br/> <br/>";

}

} **else** {

document.getElementById("result").innerHTML = "Sorry, your browser does not support Web Storage...";

}

}

**function** removeData(){

**var** nameObject = document.getElementById("removeDataName");

**var** name = nameObject.value;

**if** (**typeof**(Storage) !== "undefined") {

**var** value = localStorage.getItem(name);

localStorage.removeItem(name);

**if**(value==**null**){

document.getElementById("re\_message").innerHTML = " Variable = "+name+" is not present in Local Storage. " ;

}

**else**{

document.getElementById("re\_message").innerHTML = " Variable = "+name+" with value = "+value+" is removed from Local Storage. <br/> <br/>";

}

} **else** {

document.getElementById("result").innerHTML = "Sorry, your browser does not support Web Storage...";

}

}

</script>

</head>

<body>

<header>

<h1> HTML Local Storage \_ Store and Retrieve Data Values </h1> <br/>

</header>

<section>

<article>

<h2 style="text-decoration: *underline*;"> To Enter Data to Local Storage :- </h2> <br/>

</article>

<article>

<h3> Enter Variable Name : </h3>

<input id=*"inputDataName"* type=*"text"* /> <br/> <br/>

</article>

<article>

<h3> Enter Variable Value : </h3>

<input id=*"inputDataValue"* type=*"text"* /> <br/> <br/>

</article>

<article>

<button onclick="storeData()"> Store Data </button> <br/> <br/>

<div id=*"s\_message"*></div> <br/>

</article>

<article>

<h2 style="text-decoration: *underline*;"> To Retrieve Data from Local Storage :- </h2>

</article>

<article>

<h3> Enter Variable Name : </h3>

<input id=*"outputDataName"* type=*"text"* /> <br/> <br/>

</article>

<article>

<h3> Retrieve Variable value : </h3>

<input id=*"outputDataValue"* type=*"text"* /> <br/> <br/>

</article>

<article>

<button onclick="retrieveData()"> Retrieve Data </button> <br/> <br/>

<div id=*"r\_message"*></div> <br/>

</article>

<article>

<h2 style="text-decoration: *underline*;"> To Remove Data from Local Storage :- </h2>

</article>

<article>

<h3> Enter Variable Name : </h3>

<input id=*"removeDataName"* type=*"text"* /> <br/> <br/>

</article>

<article>

<button onclick="removeData()"> Remove Data </button> <br/> <br/>

<div id=*"re\_message"*></div> <br/>

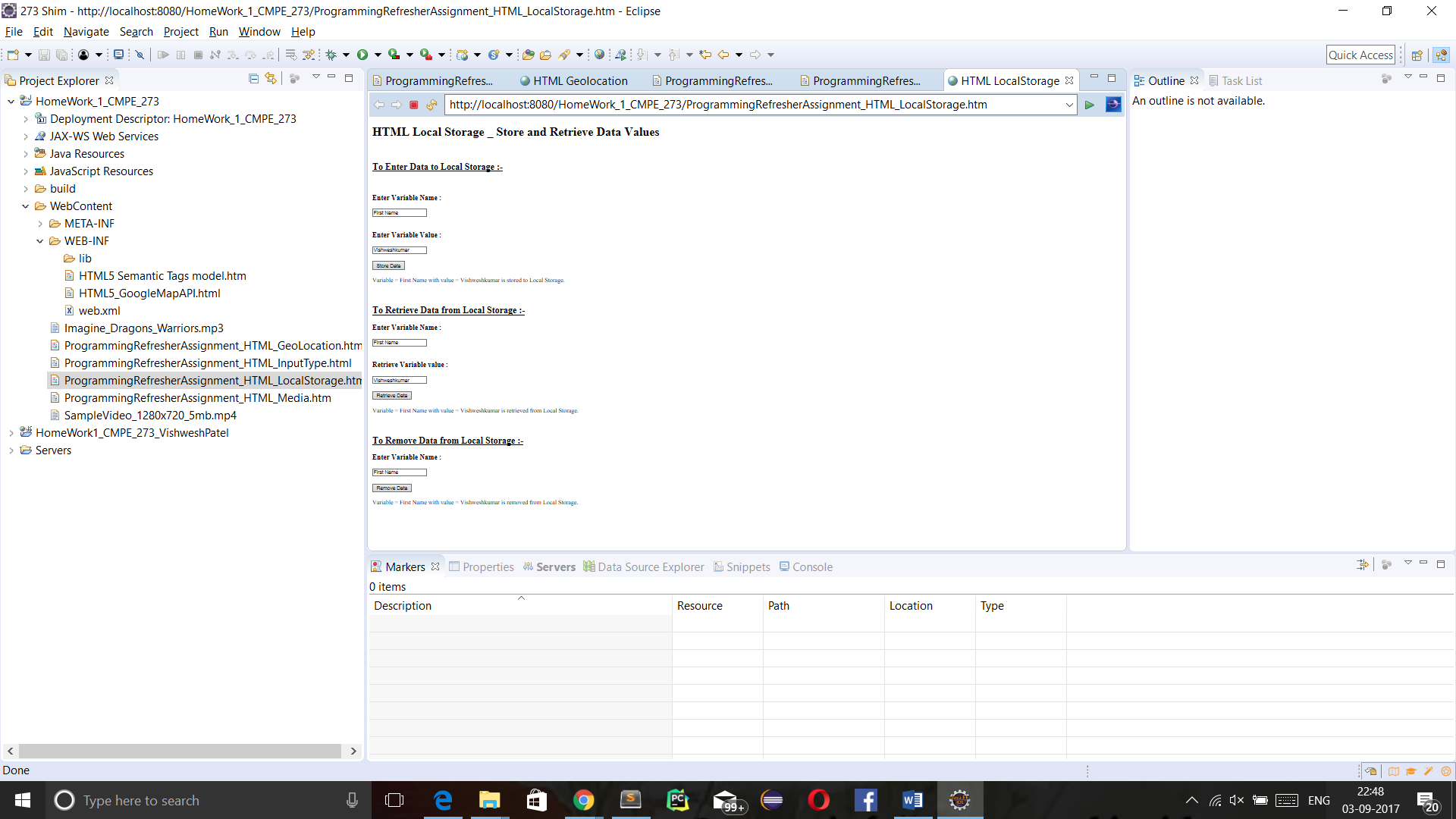
</article>

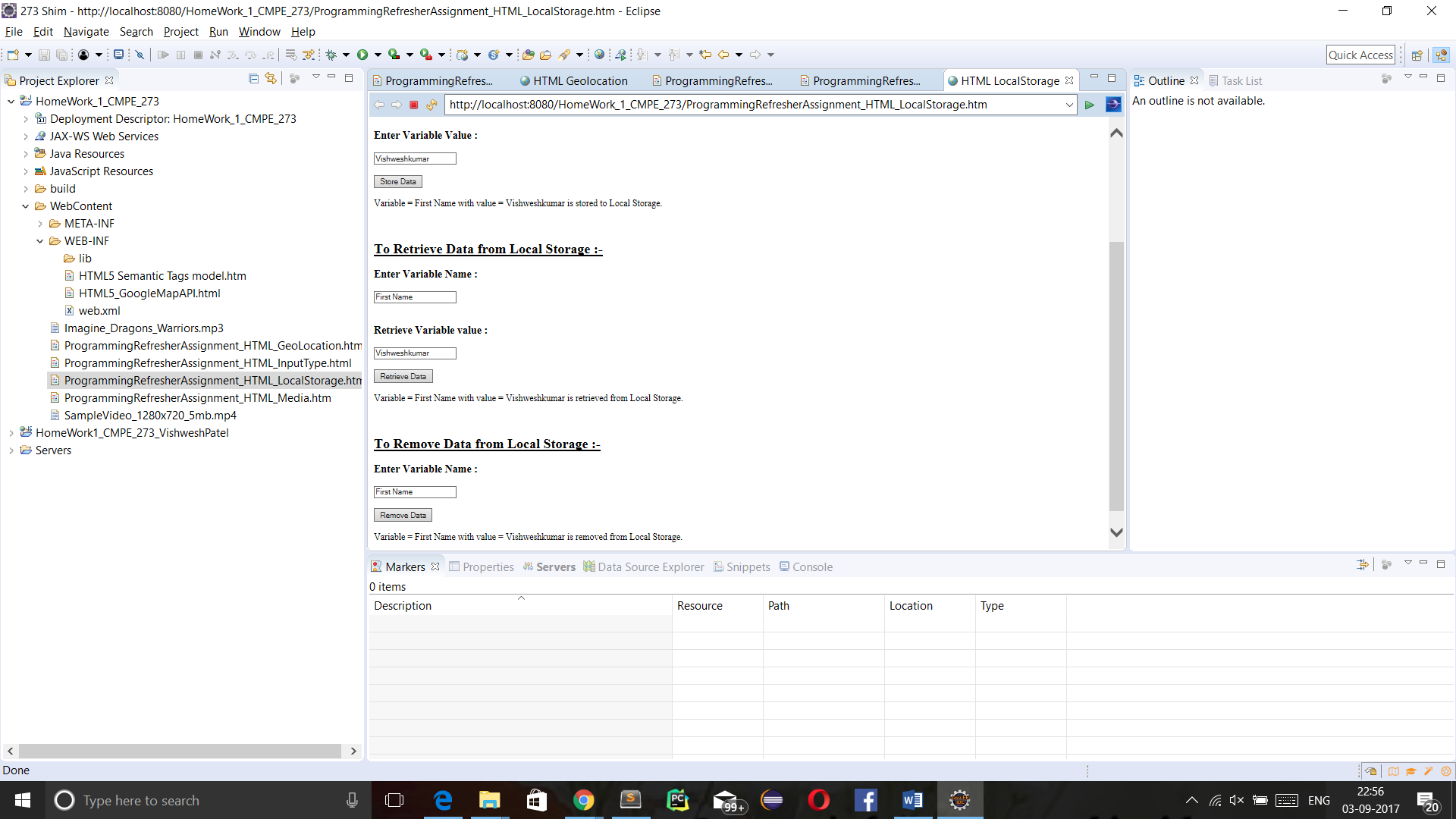
</section>

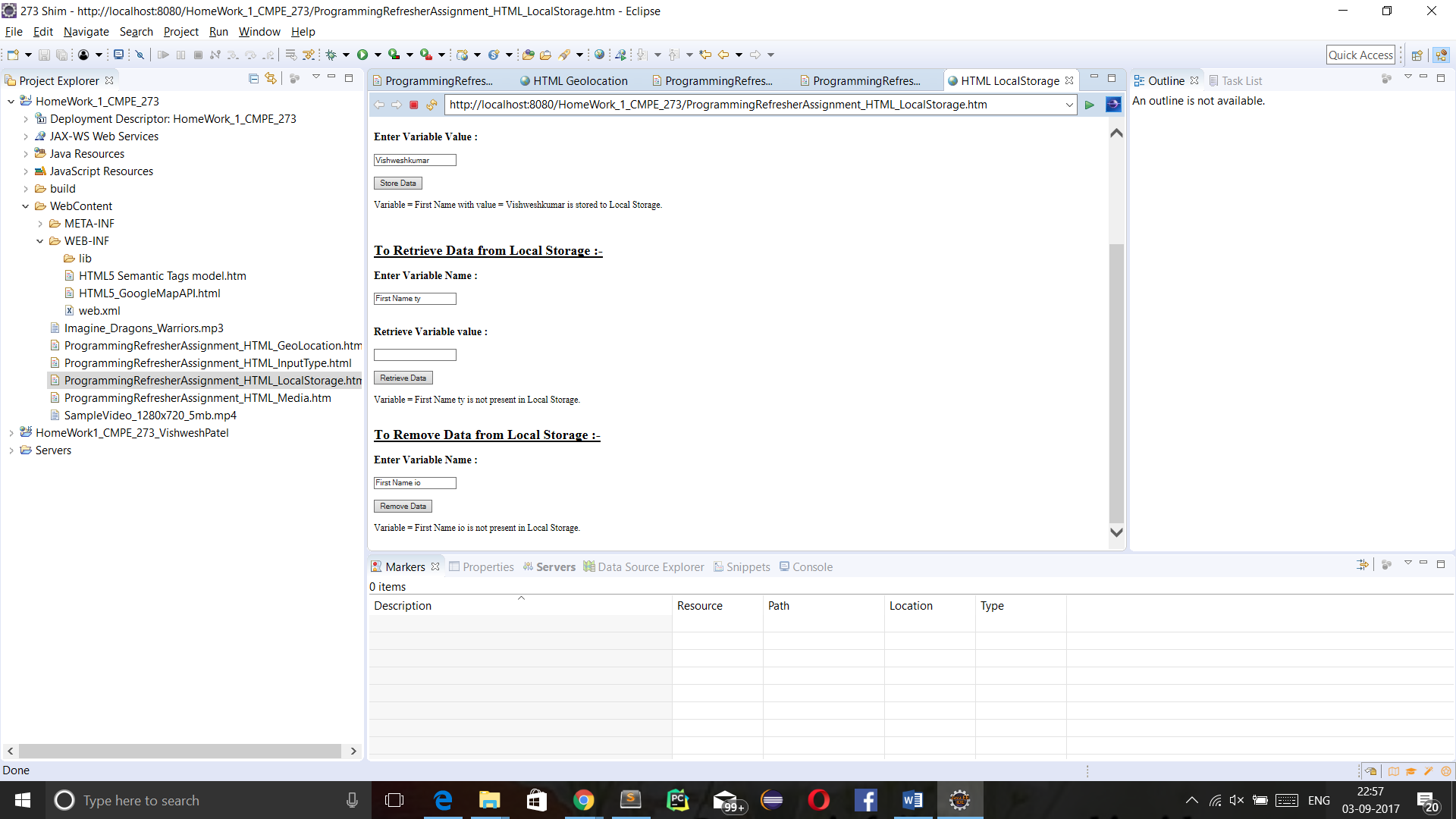
</body>

</html>

* **Output’s Screenshot :**

****

****

****

1. **Media (Audio & Video) :**

* **Introduction of Audio & Video in HTML :**

1. **Video :**

Use : to add video content to the webpage.

Attribute : height, width, controls, preload, loop, source tag, src attribute of source tag, type attribute of source tag

MP4 is the most commonly supported video type, by the web-browser.

1. **Audio :**

Use : to add audio content to the webpage.

Attribute : controls, preload, loop, source tag, src attribute of source tag, type attribute of source tag

MP3 is the most commonly supported audio type, by the web-browser.

* **Programming Question :**

Create a HTML webpage that contains one video file and one audio file.

* **Code :**

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<meta name=*"Author"* content=*"Vishweshkumar Patel"*>

<meta name=*"Description"* content=*"HTML Multimedia"*>

<meta name=*"Keywords"* content=*"HTML , CSS , Multimedia"*>

<meta name=*"Last Modified"* content=*"Sept 3, 2017"*><meta name=*"viewport"* content=*"width=device-width; initial-scale=1.0"*>

<meta http-equiv=*"refresh"* content=*"120"*>

<title>HTML Multimedia</title>

</head>

<body>

<header>

<h1 style="color: *blue*; border: *5px solid red*; text-align: *center*;" align=*"center"*> HTML Multimedia </h1>

</header>

<section>

<article>

<br/><br/>

<h2> Video Example : The Fat Bunny </h2>

<video width=*"500"* height=*"500"* align=*"center"* controls>

<source src=*"SampleVideo\_1280x720\_5mb.mp4"* type=*"video/mp4"*>

!!Your Browser doesn't support this video type!!

</video>

</article>

<article>

<br/><br/><br/>

<h2> Audio Example : Imagine Dragons - Warriors </h2>

<audio controls>

<source src=*"Imagine\_Dragons\_Warriors.mp3"*/>

!!Your Browser doesn't support this Audio type!!

</audio>

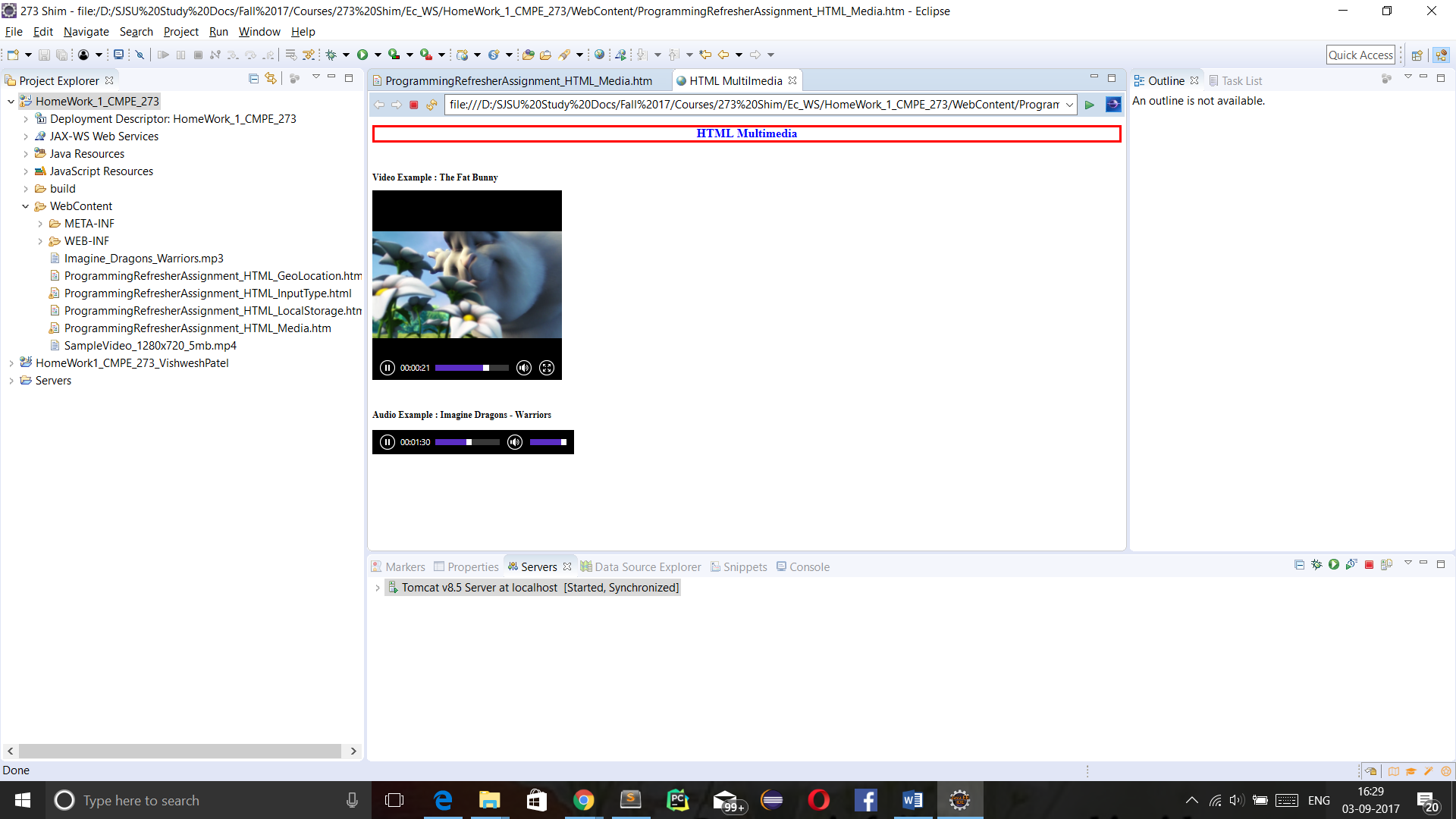
</article>

</section>

</body>

</html>

* **Output’s Screenshot :**

****

1. **Input Types :**

* **Introduction of Input Type** :

1. **Autofocus** :

Use : On loading the webpage, to pass control to the first element having autofocus attribute.

1. **Required** :

Use : Elements having required attribute are must to be filled, before submitting form.

1. **Date** :

Use : To take date input.

Attributes : name, max, min, value

1. **Email** :

Use : To take email as input and validate it.

Attribute : name, value

1. **List** :

Use : To let user choose either from available options **or** let him/her enter his own data.

Attribute : option tags, option tag values, name, id

* Id of Datalist and list attribute of input tag that’s defined for this datalist must be same.

1. **Pattern** :

Use : To take specified formatted input.

1. **Number** :

Use : To take only numbers as input.

Attribute : min, max, value

1. **Tel** :

Use : To take telephone phone number as input.

Attribute : name

1. **Url** :

Use : To take Uniform Resource Locator as input.

1. **Range** :

Use : To take number between given range.

Attribute : min, max, step

* **Programming Question :**

Create a form to get various student details like SJSU ID, First Name, Last Name, Birthdate, Gender, Email Id, Contact Number, Address, Enrolment Term and Weight.

* **Code :**

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<meta name=*"Author"* content=*"Vishweshkumar Patel"*>

<meta name=*"Description"* content=*"Homework\_1\_CMPE\_273 : Input Types"*>

<meta name=*"keyword"* content=*"HTML,CSS,JavaScript"*>

<meta name=*"last modified"* content=*"August 31,2017"*>

<meta name=*"viewport"* content=*"width=device-width; initial-scale=1.0"*>

<!-- <meta http-equiv="refresh" content="60"> -->

<link rel=*"stylesheet"* href=*"Style.css"*>

<!-- <script src="Script.js"></script> -->

<title> HomeWork 1 CMPE 273 </title>

</head>

<body>

<header>

<h1 align=*"center"*> Student Information Form :- </h1>

</header>

<main>

<form method=*"post"*>

<section>

<article>

SJSU Id Number : <input type=*"text"* name=*"SJSUId"* pattern=*"[0-9]{9}"* autofocus required oninvalid=*"this.setCustomValidity('Suggested Format: XXXXXXXX X=[0-9]')"*/> <br/> <br/>

</article>

<article>

First Name &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;: <input type=*"text"* name=*"FirstName"* oninvalid=*"this.setCustomValidity('!!You must enter First Nmae here!!')"* required/> <br/> <br/>

</article>

<article>

Last name &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;: <input type=*"text"* name=*"LastName"* required/> <br/> <br/>

</article>

<article>

Birth Date &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;: <input type=*"date"* name=*"Birthday"* max=*"1996-12-01"* required/> <br/> <br/>

</article>

<article>

Gender &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; : <input type=*"radio"* name=*"Gender"* value=*"Male"*/> Male

<input type=*"radio"* name=*"Gender"* value=*"Female"*/> Female <br/><br/>

</article>

<article>

Email Id &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;: <input type=*"email"* name=*"EmailId"* required/> <br/> <br/>

</article>

<article>

Contact Number : <input type=*"number"* name=*"ContactNumber"*/> <br/> <br/>

</article>

<article>

Address &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;: <textarea name=*"Address"* rows=*"3"* cols=*"20"*> </textarea> <br/> <br/>

</article>

<article>

Enrollement Term : <input list=*"Term"* name=*"EnrollmentTerm"*required multiple/> <br/> <br/>

<datalist id=*"Term"*>

<option value=*"Spring 2016"*/>

<option value=*"Fall 2016"*/>

<option value=*"Spring 2017"*/>

<option value=*"Fall 2017"*/>

</datalist>

</article>

<article>

Weight &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;: <input type=*"range"* name=*"Courses"* oninvalid=*"this.setCustomValidity('Enter digit between 1 to 15')"*>

</article>

<article>

<br/> Student Id PDF : <input type=*"file"* name=*"StudentId"* multiple/>

</article>

</section>

<section>

<article>

<br/> <br/> &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type=*"submit"* value=*"Submit"*/>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; <input type=*"reset"*/>

</article>

</section>

</form>

</main>

<footer>

<h2> Created By : Vishweshkumar Patel </h2>

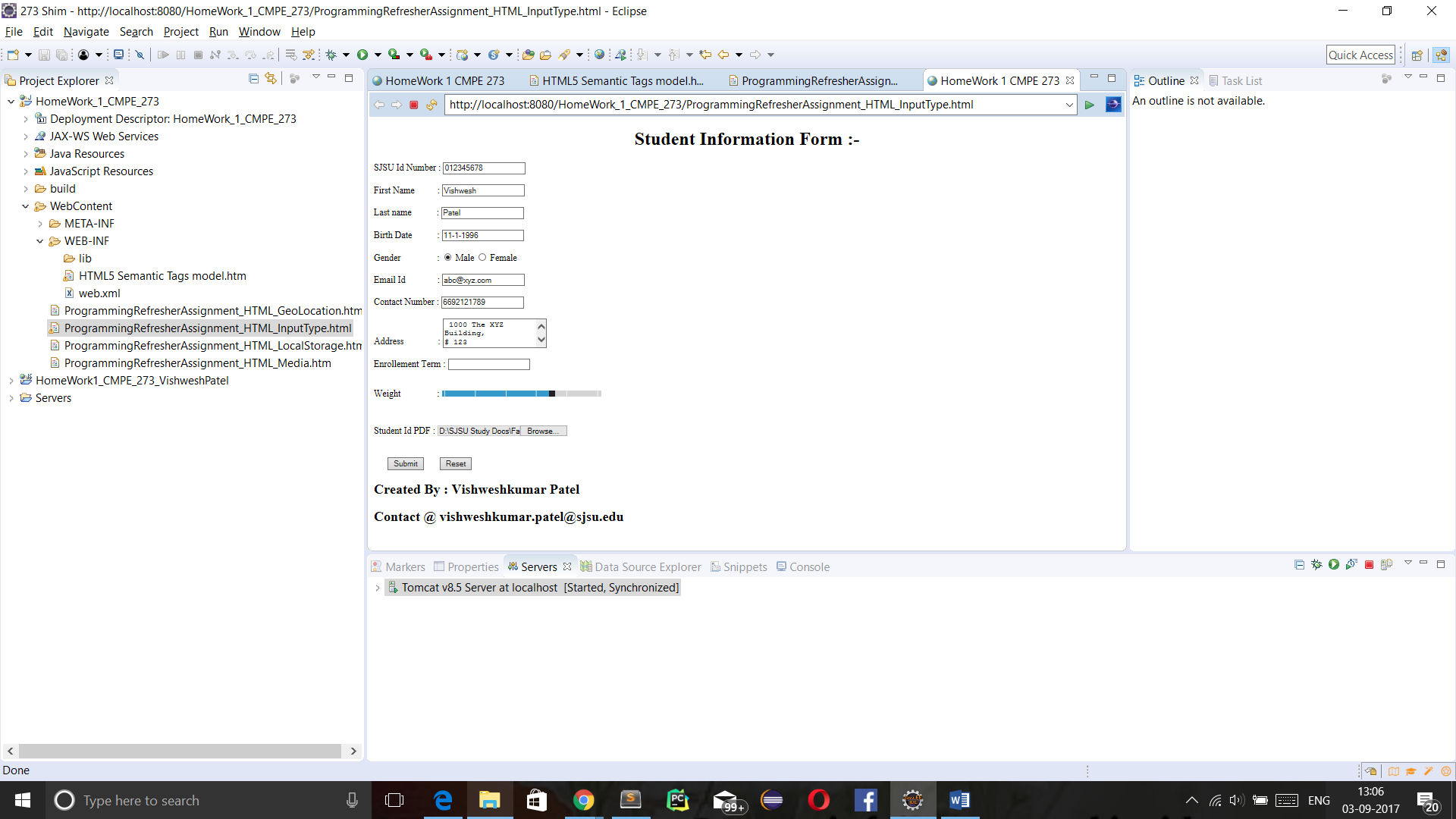
<h2> Contact @ vishweshkumar.patel@sjsu.edu </h2>

</footer>

</body>

</html>

* **Output’s Screenshot :**

****

1. **Geolocation** :

* **Introduction of GeoLocation :**

GeoLocation is used to know User’s current location in longitude and latitude. Function getCurrentPosition() returns current position of user.

* **Programming Question :**

Display User’s current location using HTML & Javascript using Geolocation in to Google Map.

* **Code :**

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<meta name=*"Author"* content=*"Vishweshkumar Patel"*/>

<meta name=*"Description"* content=*"HTML Geolocation Webpage"*/>

<meta name=*"Keywords"* content=*"HTML, Google Map API, Geolocation"*/>

<meta name=*"Last Modified"* content=*"Sept 3,2017"*/>

<meta name=*"viewport"* content=*"width=device-width, initial-scale=1.0"*/>

<title>HTML Geolocation</title>

<style type=*"text/css"*>

**header,** **section,** **article**{

display: *block*;

}

</style>

</head>

<body>

<header>

<h1 style="text-align:*center*;"> HTML GeoLocation and Google Map API </h1>

</header>

<section>

<article>

<div id=*"map"* style="width:*400px*;height:*400px*;background:*yellow*;"></div>

</article>

<script>

**function** googleMap(x,y) {

**var** mapAttribute = {

center: **new** google.maps.LatLng(x,y),

zoom: 20,

mapTypeId: google.maps.MapTypeId.HYBRID

}

**var** map = **new** google.maps.Map(document.getElementById("map"), mapAttribute);

}

</script>

<script src=*"https://maps.googleapis.com/maps/api/js?key=AIzaSyDkiMf-gi5G6BQNAtA9RSaeJ6lyhTJkcG0&callback=googleMap"*></script>

<article>

<h2 style="text-align:*center*;"> !! Through clicking the button, You will be able to see your GeoLocation on Google Map. !! </h2>

</article>

<article>

<button style="margin: *0px 850px 0px 700px*" onclick="getMyGeoLocation()">Get My GeoLocation</button>

</article>

<article>

<p id=*"MyLocation"*></p>

</article>

<script>

**var** MyLocation = document.getElementById("MyLocation");

**function** getMyGeoLocation() {

**if** (navigator.geolocation) {

navigator.geolocation.getCurrentPosition(getMyPosition);

} **else** {

MyLocation.innerHTML = "Your browser does not support Geolocation Services.";

}

}

**function** getMyPosition(position) {

MyLocation.innerHTML = "<p style=\"text-align:center;\"> Latitude: " + position.coords.latitude +

"<br>Longitude: " + position.coords.longitude;

googleMap(position.coords.latitude,position.coords.longitude);

}

</script>

</section>

</body>

</html>

* **Output’s Screenshot :**

