INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,
SONEPAT

APPLICATION PROGRAMMING LAB WORK

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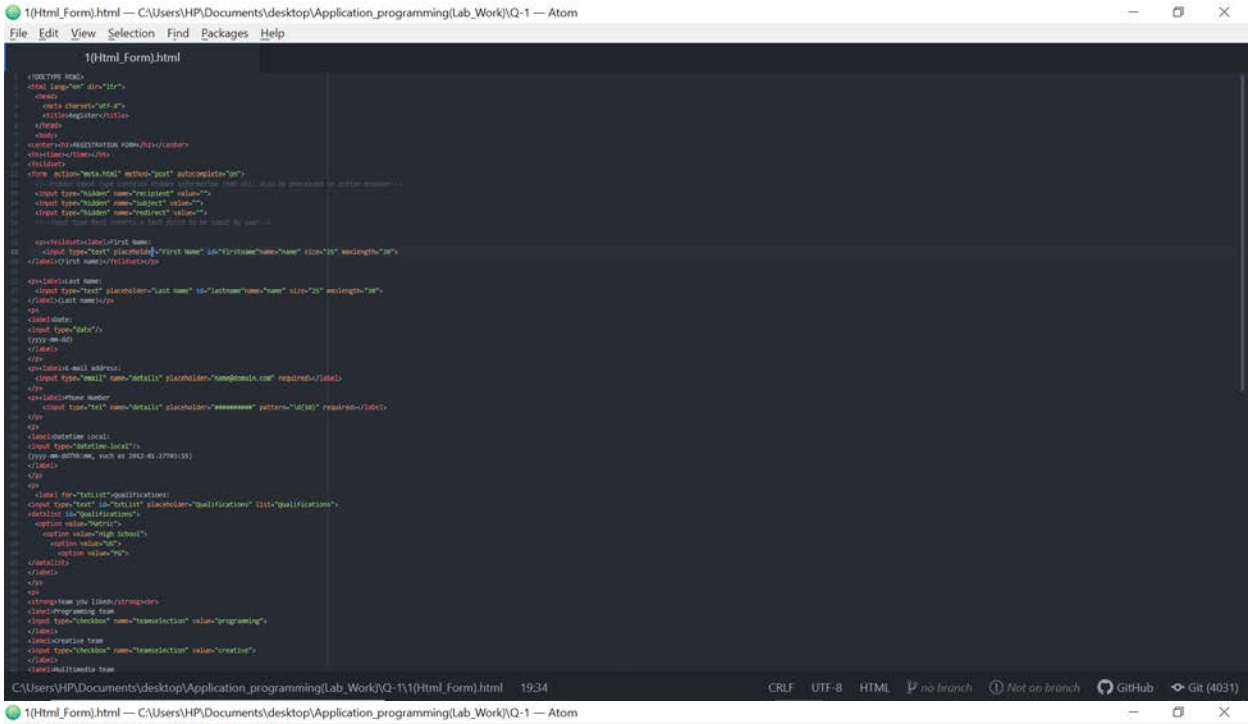
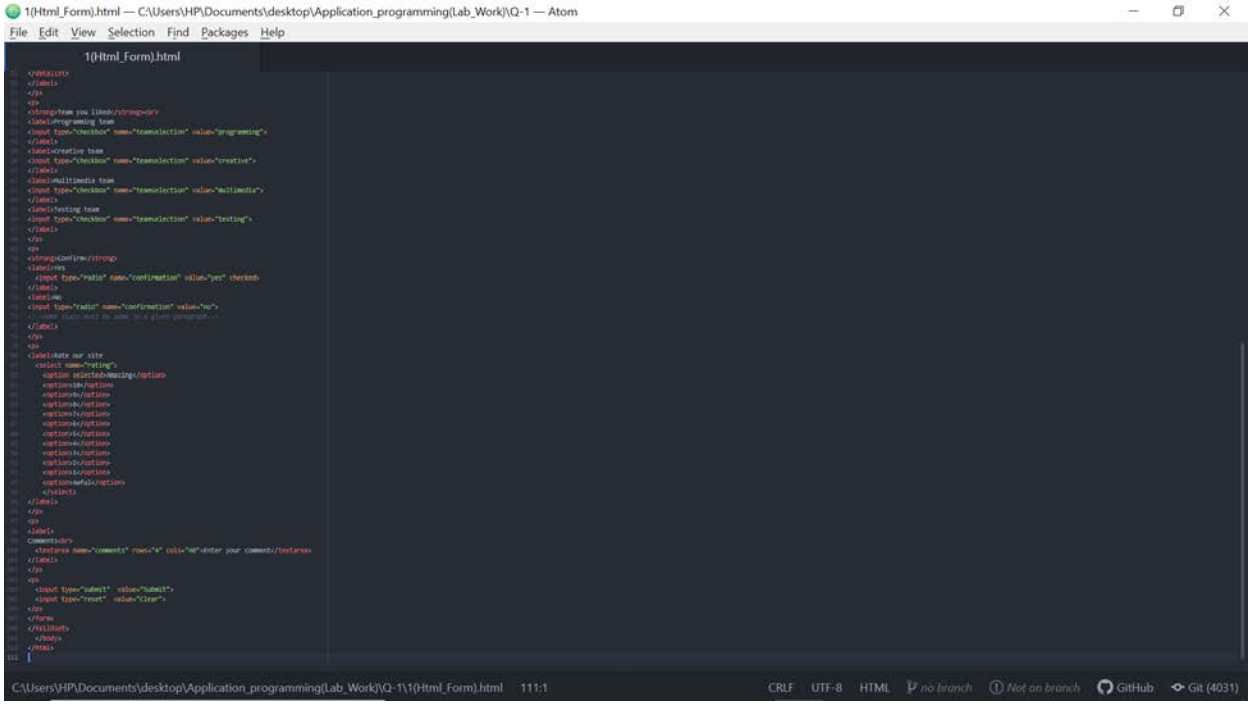
BRANCH : CSE

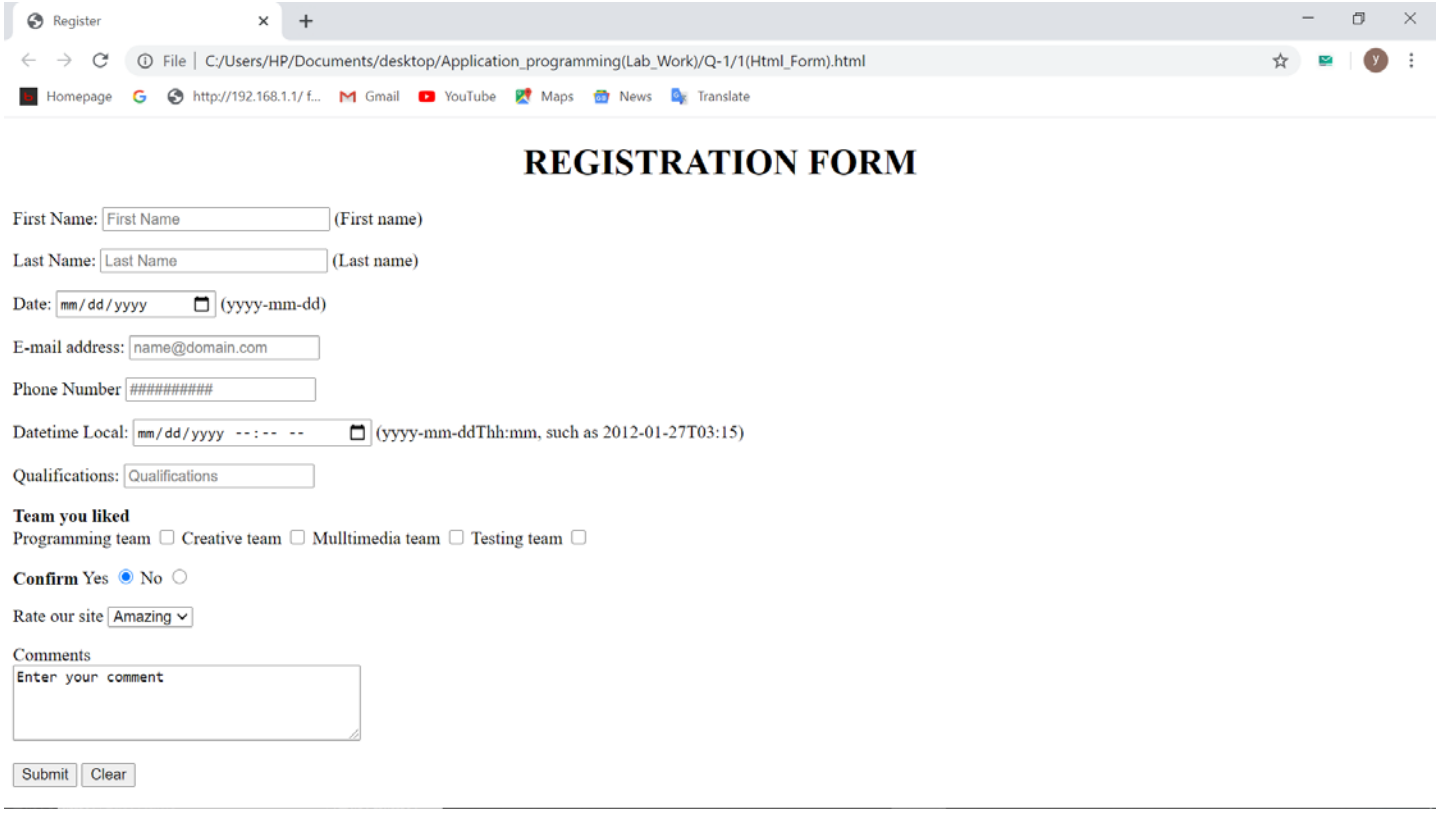
1. Create a HTML web page form.

CODE

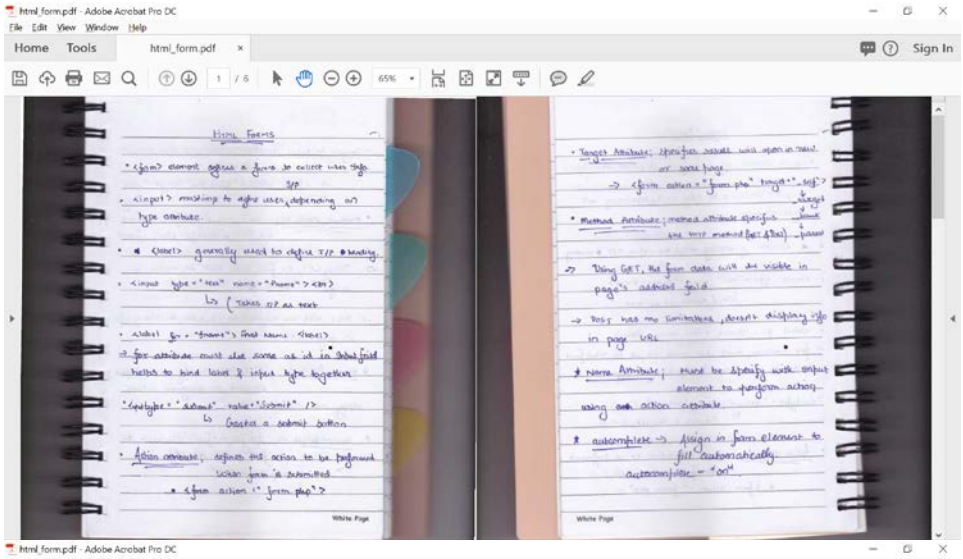


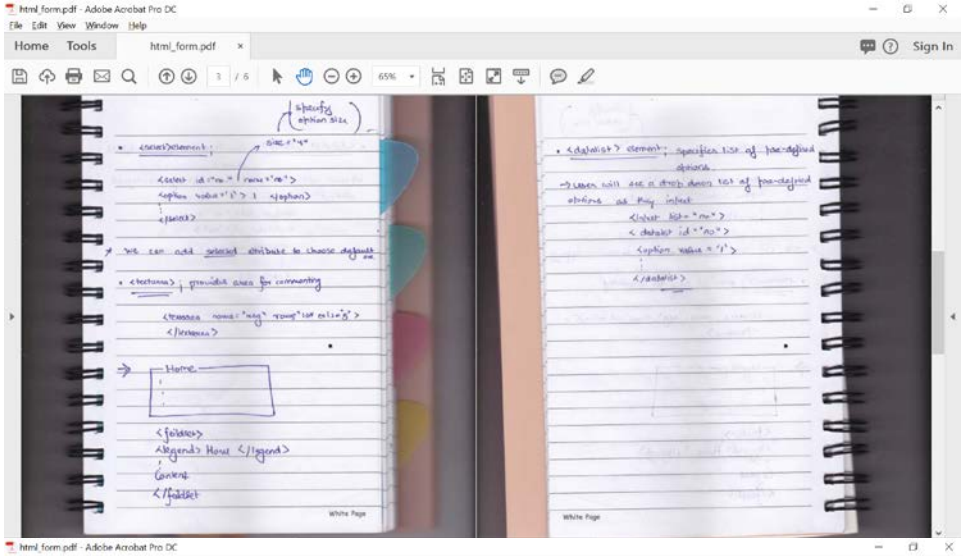


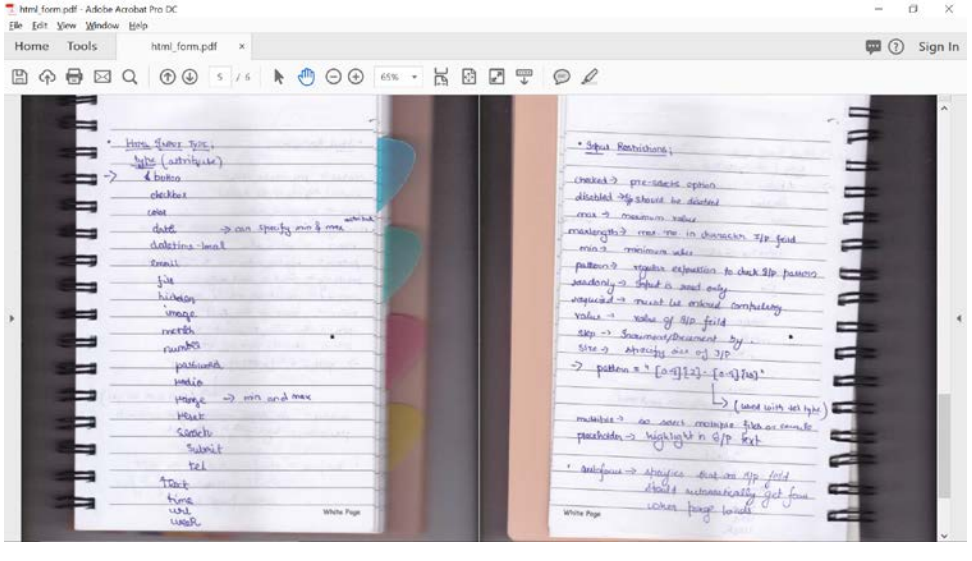
OUTPUT



NOTES:


html_form.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools
html_form.pdf
Sign In
Html Forms
White Page


html_form.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools
html_form.pdf
Sign In
White Page


html_form.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools
html_form.pdf
Sign In
White Page

2. Home page using HTML.

CODE:

2(Html_homepage).html — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-2 — Atom

File Edit View Selection Find Packages Help

2(Html_homepage).html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title></title>
    <link rel="stylesheet" href="2(Html_homepage_Styling).css" type="text/css">
  </head>
  <body>
    <h1>Daily Blog</h1>
    <hr align="center" width="40%">
    <div class="abc">
    <time>MARCH 28 2020</time>
    <p>
      <h2>Linear harmonic oscillator</h2>  <article>
      In a classical mechanics, a linear harmonic oscillator is a system that, when displaced from its equilibrium position, experiences a restoring force F proportional to the displacement x. , where k is a positive constant. If F is the only force ac
      on the amplitude). If a frictional force (damping) proportional to the velocity is also present the harmonic oscillator is decribed as a damped oscillator.</article>
      </br> Depending on the friction coefficient, the system can :</br>
(1) Oscillate with a frequency lower than in the undamped case, and an amplitude decreasing with time (underdamped oscillator).</br>
(2) Decay to the equilibrium position, without oscillations (overdamped oscillator).</br>
The bounded or the boundary solution between an underdamped oscillator and an overdamped oscillator occurs at a particular value of the friction coefficient and is called the critically damped. If an external time-dependent force is present, the linear
such as RLC circuits. The harmonic oscillator model is very important in Physics , because any mass subject to a force in stable equilibrium acts as a linear harmonic oscillator for small variations. Harmonic oscillation occur widely in nature and are e
</p>
<hr width="90%" align="center">
<time>MARCH 28 2020</time>
<p>
  <h2>Simple linear harmonic oscillator</h2>
  <article>A simple linear harmonic oscillator is an oscillator that is neither driven nor damped. It consists of a mass m, which experiences a single force F, which pulls the mass in the direction of the point x=0 and depends only on the position x of
F=mẍ=-kx()</article>
Solving this differential equation, we can find that the motion is described by the function x(t)=Acos(ωt+ϕ), where ω= .The motion is periodic, repeating itself in a sinusoidal fashion with constant amplitude A. In addition to its amplitude, the motion
determines the starting point on the sine wave. The period and frequency are determined by the size of the mass m and the constant i.e. force constant k, while the amplitude and phase are determined by the starting position and velocity.
The velocity and acceleration of a simple linear harmonic oscillator oscillate with the same frequency as the position, but with shifted phases. The velocity is maximal for zero displacement, while the acceleration in the direction opposite to the displ
</p>
<hr width="90%" align="center">
<time>MARCH 28 2020</time>
<p>
  <h2>Simple Harmonic Motion </h2>
    <article>Introduction :- It is to be familiar with many examples of repeated motion in our daily life. If an object returns to its original position a number of time, we call its motion repetitive. Typically in examples of repetitive motion of the h
    observations of the motion of the sun and the phases of the moon. Strings undergoing repetitive motion are the physical basis of all stringed musical instruments.
  Kinematics of Simple Harmonic Motion :- One common characteristics of the motions of the heartbeat, clock pendulum, voilin string, and the rotating phonograph turntable is that each motion has a well-defined time interval for each complete cycle of th
</p>
<p><button class="xs" name="button">Click Me</button></p>
</div>
  </body>
</html>
```

C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-2\2(Html_homepage).html 15:194 CRLF UTF-8 HTML no branch Not on branch GitHub Git (4031)

2(Html_homepage_Styling).css — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-2 — Atom

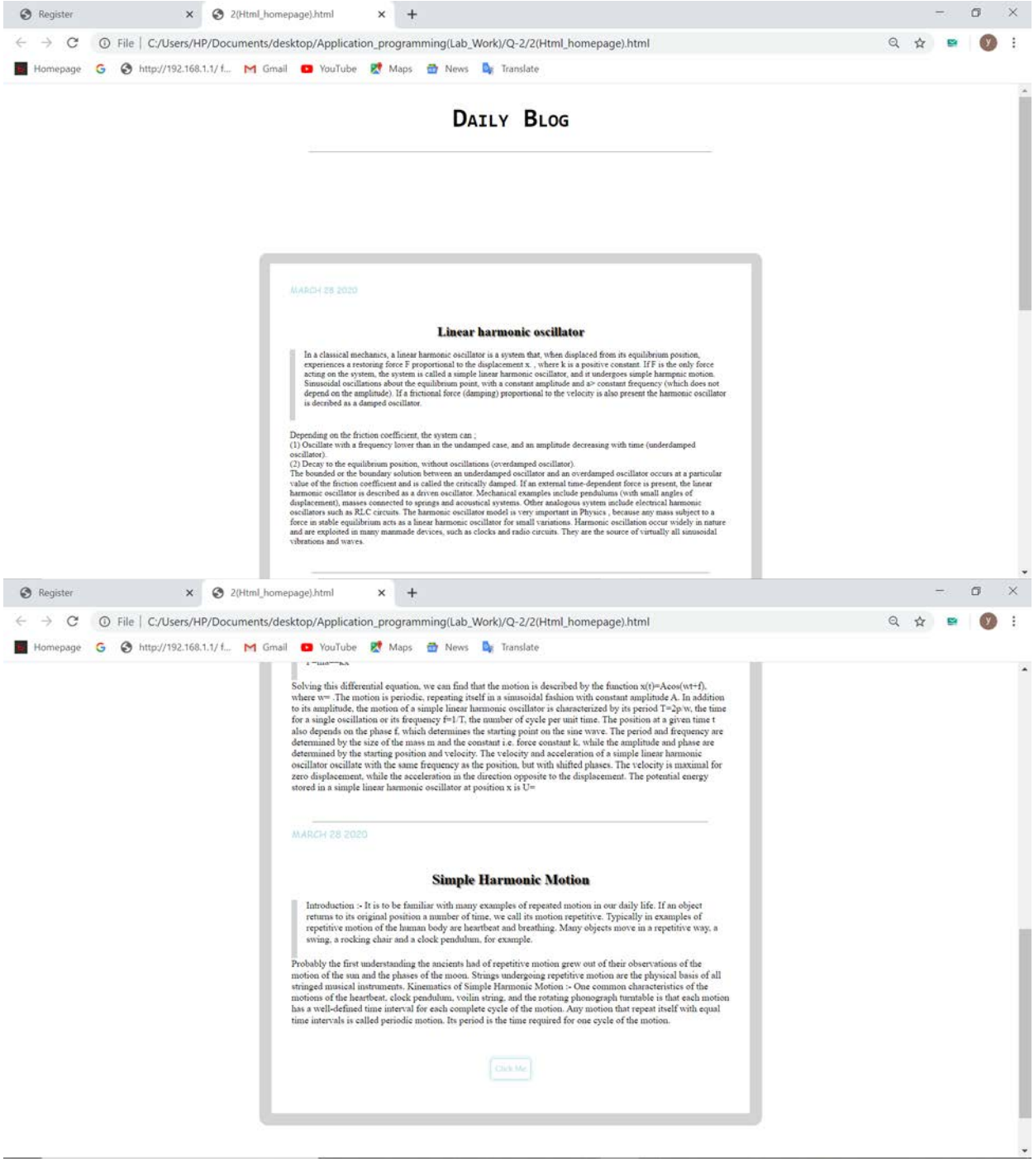
File Edit View Selection Find Packages Help

2(Html_homepage_Styling).css

```
div{
  font-family: serif;
  margin : 10% 25%;
  border: 20px solid lightgrey;
  border-radius: 15px;
  padding:2% 2%;
}
p{
  padding: 1% 1%;
  text-align: center
}
h1{
  text-align: center;
  font-size: 50px;
  font-family: monospace;
  font-variant: small-caps;
}
h2{
  text-align: center;
  text-shadow: 2px 2px 2px dimgrey;
}
time{
  color: powderblue;
  font-family: cursive;
  padding-bottom: 1%;
}
article{
  padding-left: 2%;
  padding-bottom: 3%;
  border-left: 10px solid lightgrey;
}
button{
  display: inline-block;
  padding: 0.2rem 0.4rem;
  border: 1px solid transparent;
  color: powderblue;
  line-height: 2;
  font-weight: 400;
  border-radius: 1px;
  border-color: powderblue;
  background-color: white;
  border-radius: 0.3rem;
  box-shadow: 0 0 0.4rem powderblue;
}
button:focus{
  color:white;
  border-color: powderblue;
  background-color: powderblue;
  box-shadow: 0 0 0.8rem powderblue;
  outline: 0;
}
```

C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-2\2(Html_homepage_Styling).css 1:1 CRLF UTF-8 CSS no branch Not on branch GitHub Git (4031)

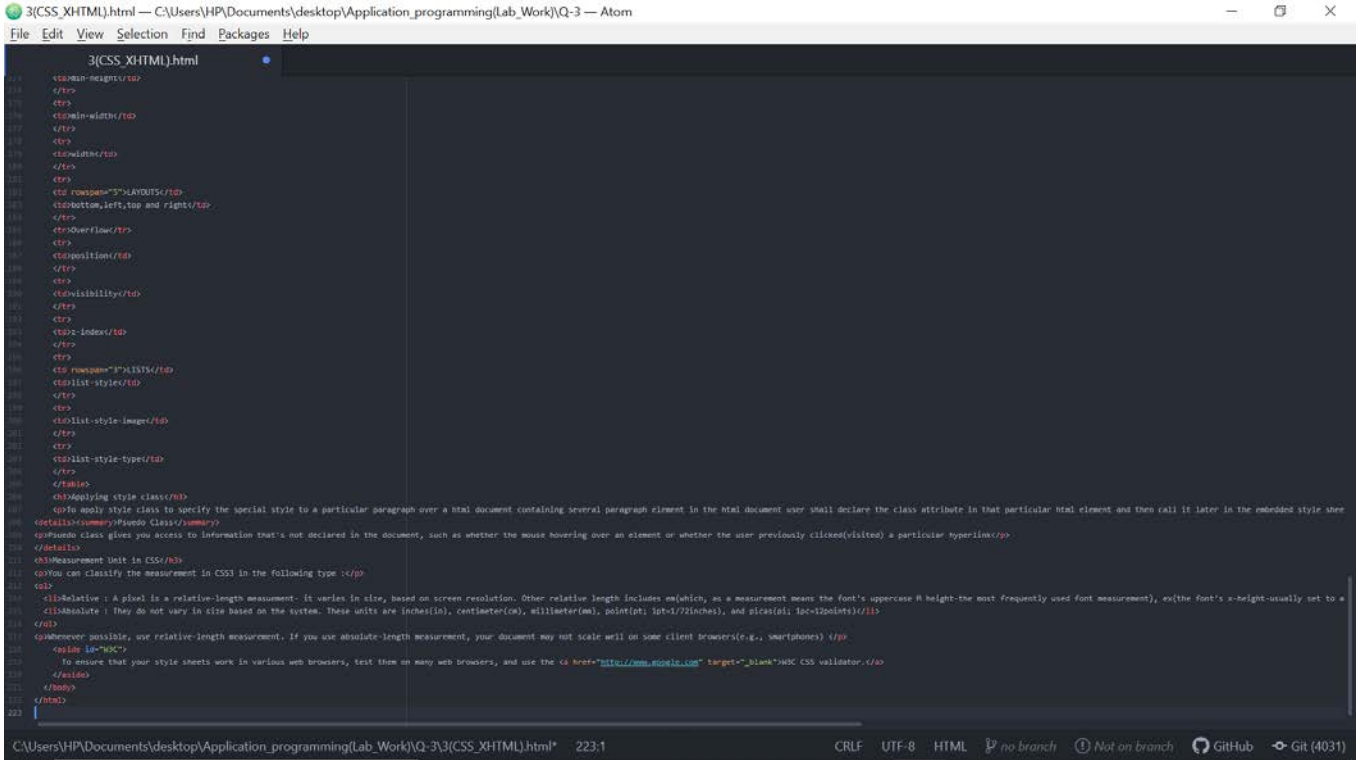
OUTPUT


Register
2(Html_homepage).html
File | C:/Users/HP/Documents/desktop/Application_programming(Lab_Work)/Q-2/2(Html_homepage).html
Homepage
http://192.168.1.1/ f...
Gmail
YouTube
Maps
News
Translate
DAILY BLOG
MARCH 28 2020
Linear harmonic oscillator
In a classical mechanics, a linear harmonic oscillator is a system that, when displaced from its equilibrium position, experiences a restoring force F proportional to the displacement x. , where k is a positive constant. If F is the only force acting on the system, the system is called a simple linear harmonic oscillator, and it undergoes simple harmpnic motion. Sinusoidal oscillations about the equilibrium point, with a constant amplitude and a> constant frequency (which does not depend on the amplitude). If a frictional force (damping) proportional to the velocity is also present the harmonic oscillator is decribed as a damped oscillator.
Depending on the friction coefficient, the system can ;
(1) Oscillate with a frequency lower than in the undamped case, and an amplitude decreasing with time (underdamped oscillator).
(2) Decay to the equilibrium position, without oscillations (overdamped oscillator).
The bounded or the boundary solution between an underdamped oscillator and an overdamped oscillator occurs at a particular value of the friction coefficient and is called the critically damped. If an external time-dependent force is present, the linear harmonic oscillator is described as a driven oscillator. Mechanical examples include pendulums (with small angles of displacement), masses connected to springs and acoustical systems. Other analogous system include electrical harmonic oscillators such as RLC circuits. The harmonic oscillator model is very important in Physics , because any mass subject to a force in stable equilibrium acts as a linear harmonic oscillator for small variations. Harmonic oscillation occur widely in nature and are exploited in many manmade devices, such as clocks and radio circuits. They are the source of virtually all sinusoidal vibrations and waves.
Register
2(Html_homepage).html
File | C:/Users/HP/Documents/desktop/Application_programming(Lab_Work)/Q-2/2(Html_homepage).html
Homepage
http://192.168.1.1/ f...
Gmail
YouTube
Maps
News
Translate
Solving this differential equation, we can find that the motion is described by the function x(t)=Acos(wt+f), where w= .The motion is periodic, repeating itself in a sinusoidal fashion with constant amplitude A. In addition to its amplitude, the motion of a simple linear harmonic oscillator is characterized by its period T=2p/w, the time for a single oscillation or its frequency f=1/T, the number of cycle per unit time. The position at a given time t also depends on the phase f, which determines the starting point on the sine wave. The period and frequency are determined by the size of the mass m and the constant i.e. force constant k, while the amplitude and phase are determined by the starting position and velocity. The velocity and acceleration of a simple linear harmonic oscillator oscillate with the same frequency as the position, but with shifted phases. The velocity is maximal for zero displacement, while the acceleration in the direction opposite to the displacement. The potential energy stored in a simple linear harmonic oscillator at position x is U=
MARCH 28 2020
Simple Harmonic Motion
Introduction :- It is to be familiar with many examples of repeated motion in our daily life. If an object returns to its original position a number of time, we call its motion repetitive. Typically in examples of repetitive motion of the human body are heartbeat and breathing. Many objects move in a repetitive way, a swing, a rocking chair and a clock pendulum, for example.
Probably the first understanding the ancients had of repetitive motion grew out of their observations of the motion of the sun and the phases of the moon. Strings undergoing repetitive motion are the physical basis of all stringed musical instruments. Kinematics of Simple Harmonic Motion :- One common characteristics of the motions of the heartbeat, clock pendulum, voilin string, and the rotating phonograph turntable is that each motion has a well-defined time interval for each complete cycle of the motion. Any motion that repeat itself with equal time intervals is called periodic motion. Its period is the time required for one cycle of the motion.
Click Me

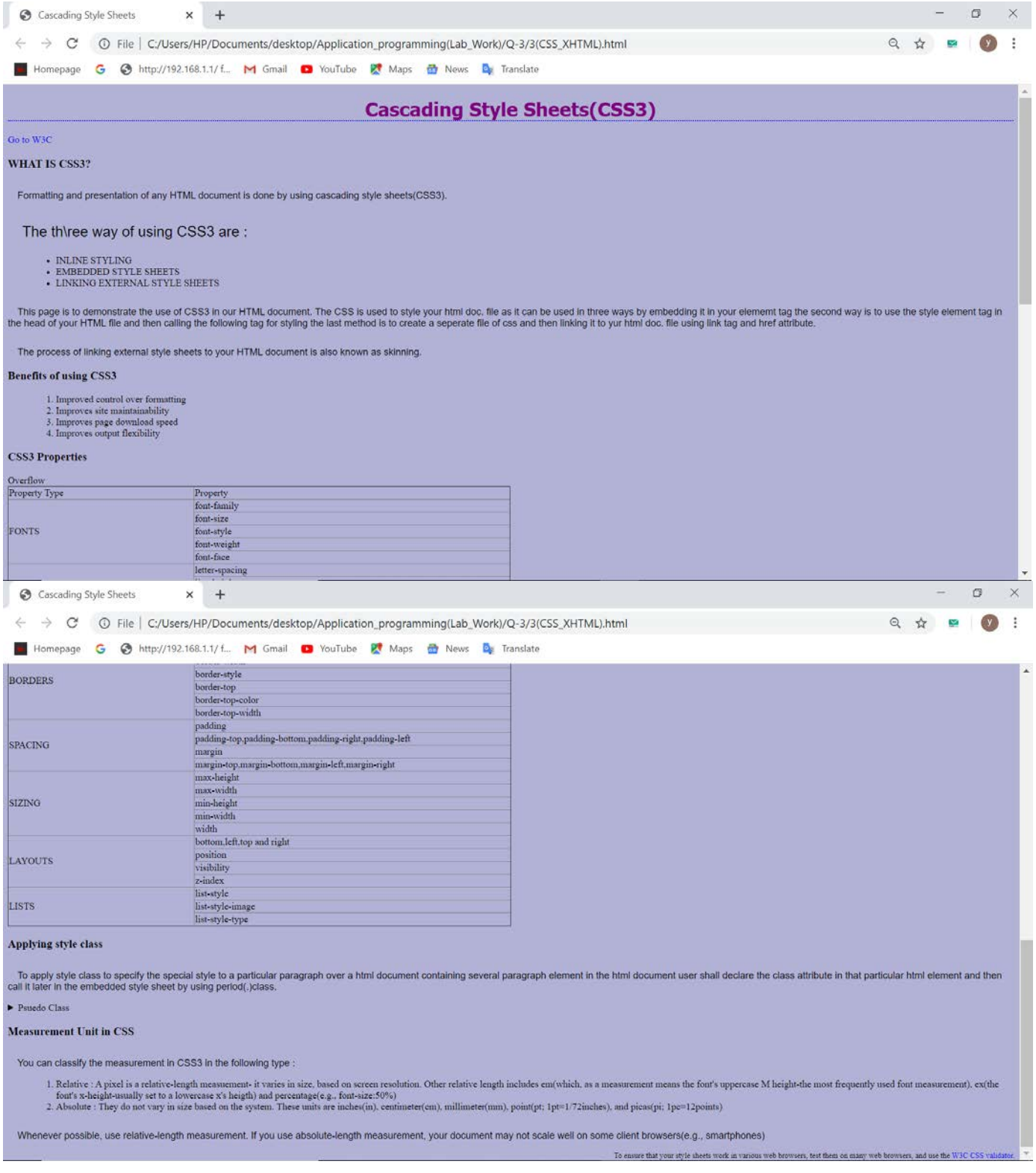
3. Creating a web page using XML and CSS.

CODE:

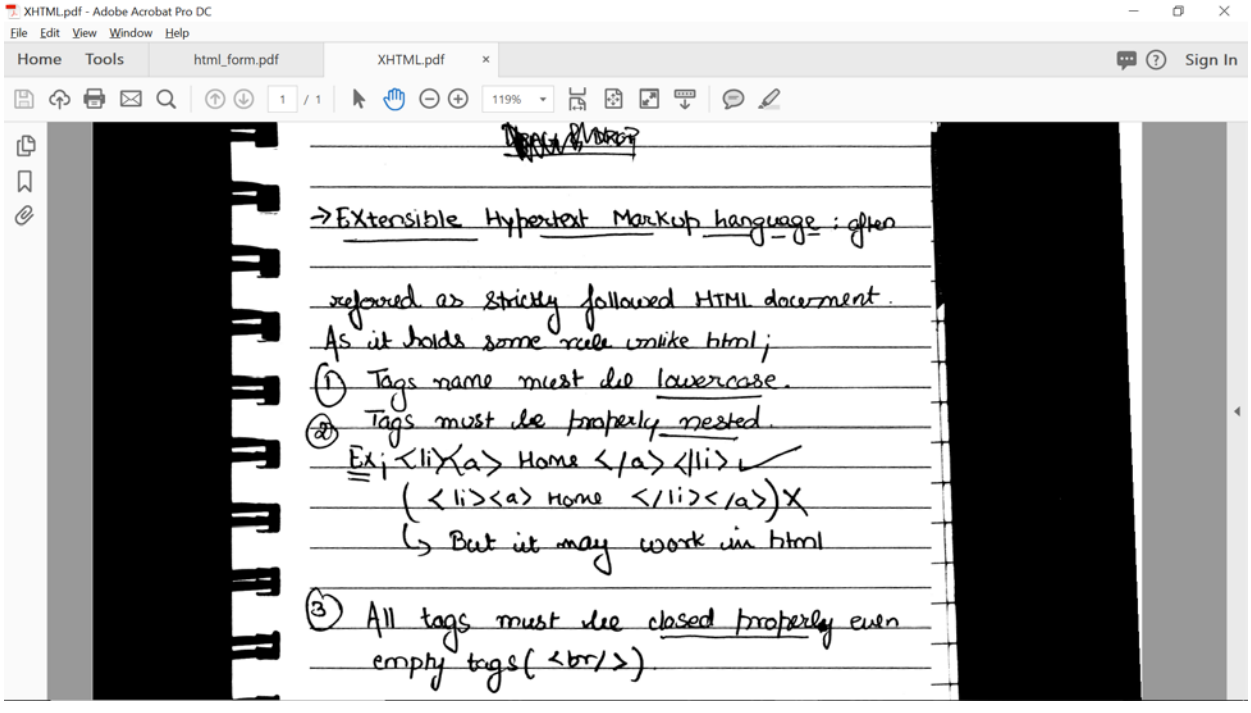
3(CSS_XHTML).html — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-3 — Atom
File Edit View Selection Find Packages Help
3(CSS_XHTML).html
<td>text-spacing</td>
</tr>
<tr>
<td>line-height</td>
</tr>
<tr>
<td>text-align</td>
</tr>
<tr>
<td>text-decoration</td>
</tr>
<tr>
<td>text-indent</td>
</tr>
<tr>
<td rowspan="5">COLOR AND BACKGROUND</td>
<td>background-color</td>
</tr>
<tr>
<td>background-image</td>
</tr>
<tr>
<td>background-position</td>
</tr>
<tr>
<td>background-repeat</td>
</tr>
<tr>
<td>color</td>
</tr>
<tr>
<td rowspan="6">BORDERS</td>
<td>border-color</td>
</tr>
<tr>
<td>border-width</td>
</tr>
<tr>
<td>border-style</td>
</tr>
<tr>
<td>border-top</td>
</tr>
<tr>
<td>border-top-color</td>
</tr>
<tr>
<td>border-top-width</td>
</tr>
<tr>
<td rowspan="4">SPACING</td>
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-3\3(CSS_XHTML).html* 151:1
CRLF UTF-8 HTML no branch Not on branch GitHub Git (4031)


3(CSS_XHTML).html — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-3 — Atom
File Edit View Selection Find Packages Help
3(CSS_XHTML).html
<td>min-height</td>
</tr>
<tr>
<td>min-width</td>
</tr>
<tr>
<td>width</td>
</tr>
<tr>
<td rowspan="5">LAYOUTS</td>
<td>bottom,left,top and right</td>
</tr>
<tr>Overflow</tr>
<tr>
<td>position</td>
</tr>
<tr>
<td>visibility</td>
</tr>
<tr>
<td>z-index</td>
</tr>
<tr>
<td rowspan="3">LISTS</td>
<td>list-style</td>
</tr>
<tr>
<td>list-style-image</td>
</tr>
<tr>
<td>list-style-type</td>
</tr>
</table>
<h3>Applying style class</h3>
To apply style class to specify the special style to a particular paragraph over a html document containing several paragraph element in the html document user shall declare the class attribute in that particular html element and then call it later in the embedded style shee
<details><summary>Pseudo Class</summary>
Pseudo Class gives you access to information that's not declared in the document, such as whether the mouse hovering over an element or whether the user previously clicked(visited) a particular hyperlink
</details>
<h3>Measurement Unit in CSS</h3>
You can classify the measurement in CSS3 in the following type :
<ol>
<li>Relative : A pixel is a relative-length measurement- it varies in size, based on screen resolution. Other relative length includes em(which, as a measurement means the font's uppercase M height-the most frequently used font measurement), ex(the font's x-height-usually set to a
<li>Absolute : They do not vary in size based on the system. These units are inches(in), centimeter(cm), millimeter(mm), point(pt; 1pt=1/72inches), and picas(pi; 1pc=12points)</li>
</ol>
Whenever possible, use relative-length measurement. If you use absolute-length measurement, your document may not scale well on some client browsers(e.g., smartphones)
<aside id="W3C">
To ensure that your style sheets work in various web browsers, test them on many web browsers, and use the <a href="http://www.google.com" target="_blank">W3C CSS validator.</a>
</aside>
</body>
</html>
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-3\3(CSS_XHTML).html* 223:1
CRLF UTF-8 HTML no branch Not on branch GitHub Git (4031)

OUTPUT:


Cascading Style Sheets
File | C:/Users/HP/Documents/desktop/Application_programming(Lab_Work)/Q-3/3(CSS_XHTML).html
Homepage
http://192.168.1.1/ f...
Gmail
YouTube
Maps
News
Translate
Cascading Style Sheets(CSS3)
Go to W3C
WHAT IS CSS3?
Formatting and presentation of any HTML document is done by using cascading style sheets(CSS3).
The th\ree way of using CSS3 are :
INLINE STYLING
EMBEDDED STYLE SHEETS
LINKING EXTERNAL STYLE SHEETS
This page is to demonstrate the use of CSS3 in our HTML document. The CSS is used to style your html doc. file as it can be used in three ways by embedding it in your elememt tag the second way is to use the style element tag in the head of your HTML file and then calling the following tag for styling the last method is to create a seperate file of css and then linking it to yur html doc. file using link tag and href attribute.
The process of linking external style sheets to your HTML document is also known as skinning.
Benefits of using CSS3
1. Improved control over formatting
2. Improves site maintainability
3. Improves page download speed
4. Improves output flexibility
CSS3 Properties
Overflow
Property Type
Property
FONTS
font-family
font-size
font-style
font-weight
font-face
letter-spacing
BORDERS
border-style
border-top
border-top-color
border-top-width
SPACING
padding
padding-top,padding-bottom,padding-right,padding-left
margin
margin-top,margin-bottom,margin-left,margin-right
SIZING
max-height
max-width
min-height
min-width
width
LAYOUTS
bottom,left,top and right
position
visibility
z-index
LISTS
list-style
list-style-image
list-style-type
Applying style class
To apply style class to specify the special style to a particular paragraph over a html document containing several paragraph element in the html document user shall declare the class attribute in that particular html element and then call it later in the embedded style sheet by using period(.)class.
Psuedo Class
Measurement Unit in CSS
You can classify the measurement in CSS3 in the following type :
1. Relative : A pixel is a relative-length measuement- it varies in size, based on screen resolution. Other relative length includes em(which, as a measurement means the font's uppercase M height-the most frequently used font measurement), ex(the font's x-height-usually set to a lowercase x's heigth) and percentage(e.g., font-size:50%)
2. Absolute : They do not vary in size based on the system. These units are inches(in), centimeter(cm), millimeter(mm), point(pt; 1pt=1/72inches), and picas(pi; 1pc=12points)
Whenever possible, use relative-length measurement. If you use absolute-length measurement, your document may not scale well on some client browsers(e.g., smartphones)
To ensure that your style sheets work in various web browsers, test them on many web browsers, and use the W3C CSS validator.

NOTES:


XHTML.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools
html_form.pdf
XHTML.pdf
Sign In
→ EXtensible Hypertext Markup language : given
referred as strictly followed HTML document.
As it holds some rule unlike html;
① Tags name must be lowercase.
② Tags must be properly nested.
Ex; <li><a> Home </a></li> ✓
(<li><a> Home </li></a>) X
↳ But it may work in html
③ All tags must be closed properly even
empty tags(
).

4. Configuring and Starting Apache Tomcat Server

Downloading Tomcat Server

1. Download the apache-tomcat 9.0.36 zip for required windows 32-bits or 64-bits zip file.(https://tomcat.apache.org/download-90.cgi)
2. Unzip the file in c:// for ease of use.
   Check for the following in tomcat folder:
   1. bin
   2. logs
   3. webapps
   4. work
   5. temp
   6. conf
   7. lib
3. Install the java jdk and jre packages according to the system configuration.
4. Create environment variable JAVA_HOME and provide variable path the java jdk (path).
5. Create environment variable JRE_HOME and provide variable path the java jre (path).
6. Check if the environment variable is set in command prompt:
   set JAVA_HOME will return the variable path
   set JRE_HOME will return the variable path if set.

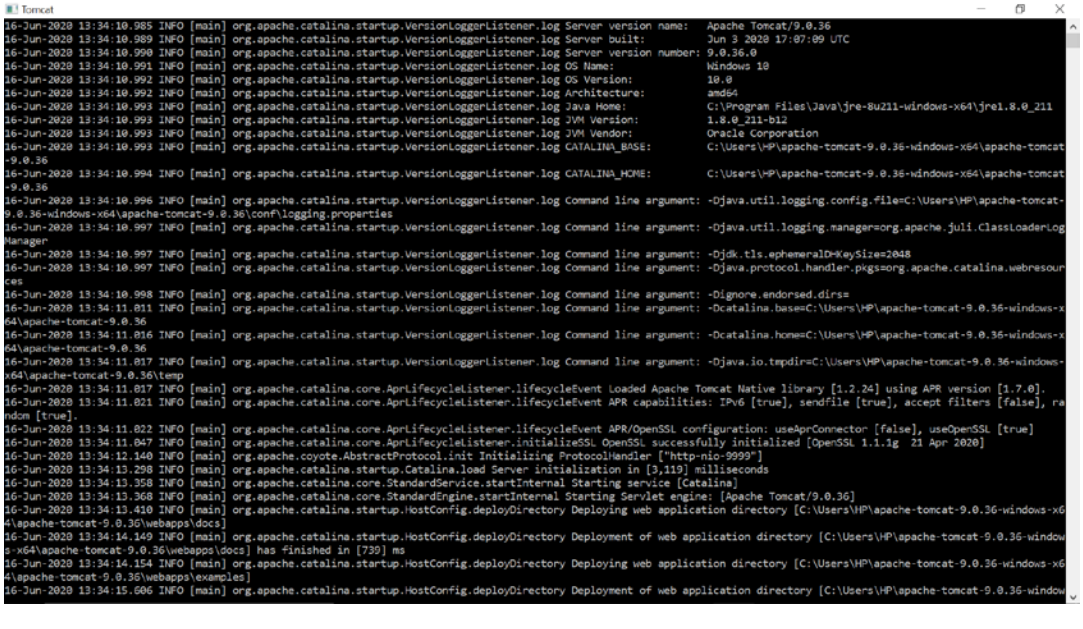
Configuring Apache tomcat:

1. Open the conf folder in tomcat directory.
2. "conf\web.xml"; Enabling a Directory Listing
   Open the configuration file "web.xml". We shall enable the directory listing by changing "listings" from "false" to "true" for the "default" servlet.
   <param-value>true</param-value> like:

3. "conf\server.xml file"; set the TCP Port Number
   <Connector port="9999" protocol="HTTP/1.1" Like -> You can set the port between 1024 and 655555.
4. "conf\context.xml"; Enabling Automatic Reload
   In that we set reloadable="true" to the <Context> element to enable automatic reload after code changes.
   Add reloadable="true" as in the following:
   <Context reloadable="true"> ..... </Context> Like
5. (Optional) "conf\tomcat-users.xml"
   It is used to manage Tomcat by adding the highlighted lines, inside the <tomcat-users> elements. In that we can add a password and username as an optional step.
6. Your Apache Tomcat Server is now configured.

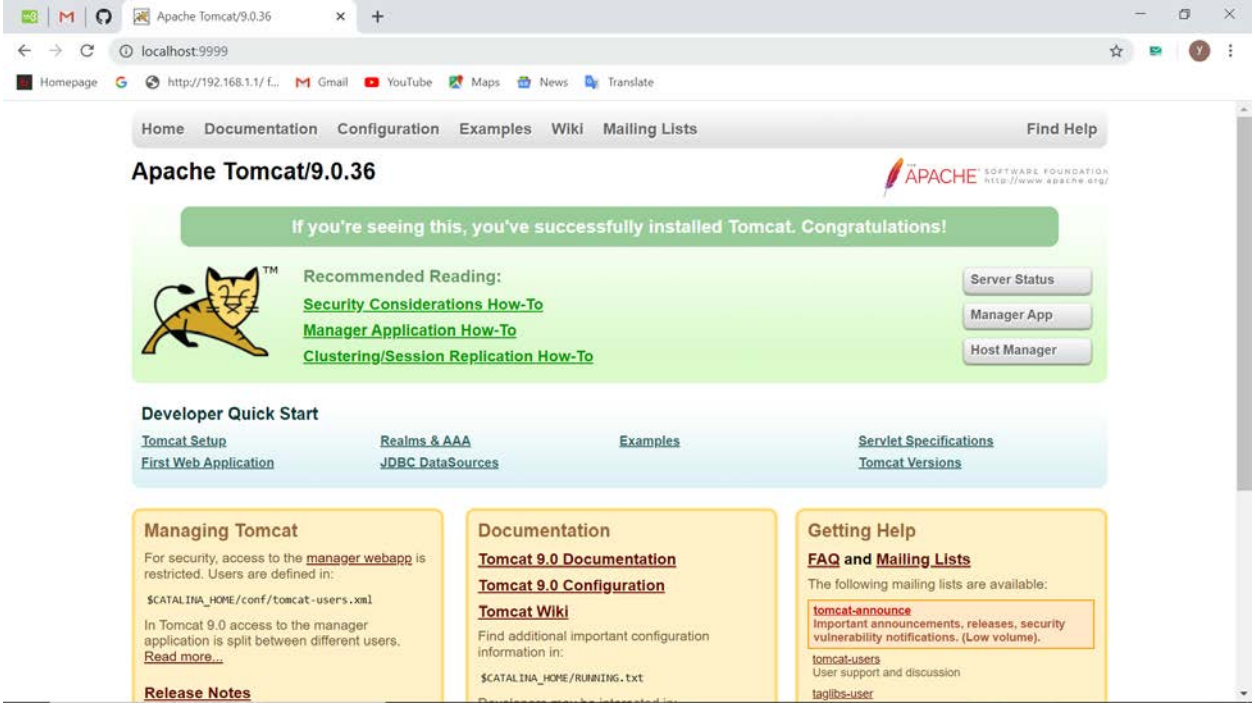
Start Server

1. Launch in command prompt by changing the directory(cd) to tomcat bin folder where all executable files exist.
   cd C:\Users\HP\apache-tomcat-9.0.36-windows-x64\apache-tomcat-9.0.36\bin
2. Now add command (startup.bat) opens the tomcat server in another command window.
3. Check for the port in tomcat window is set to 9999.

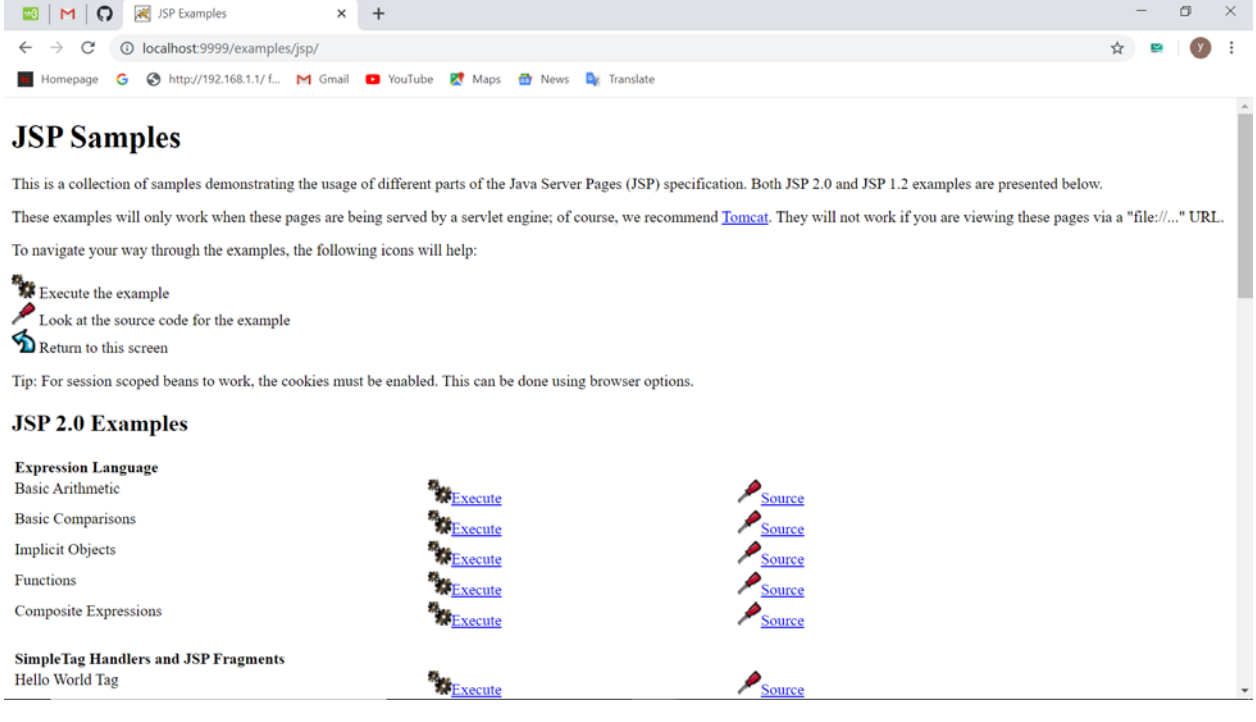


Access the Server:

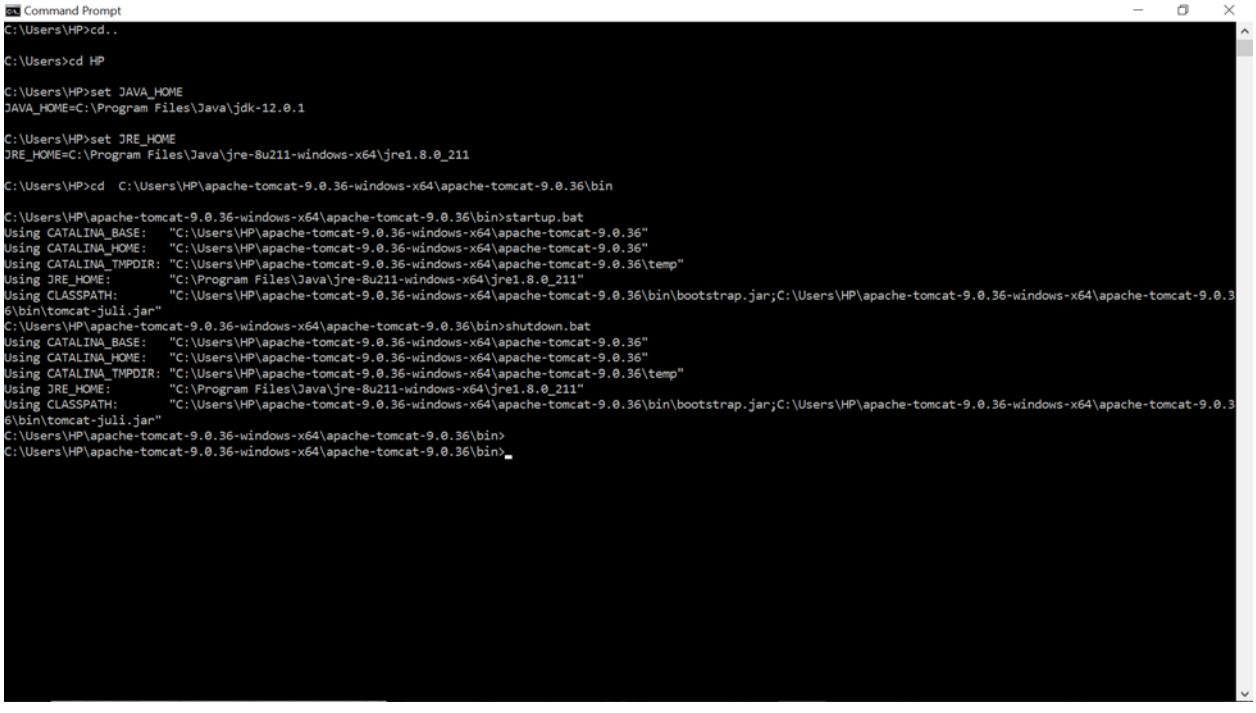
1. Open a browser then enter the URL "http://localhost:9999" to access the Tomcat server's welcome page.



2. Now try the URL http://localhost:9999/examples to view JSP and servlet examples.



3. To shutdown the server use shutdown.bat in command prompt or simply apply ctrl+c in tomcat window.



5. MODIFICATION OF WEB.XML

1. What is the Default Servlet ?

The default servlet is the servlet which serves static resources as well as serves the directory listings (if directory listings are enabled). It is declared globally in *$CATALINA_BASE/conf/web.xml*.

2. What is Web XML?

The web .xml file is the deployment descriptor for a Servlet-based Java **web** application (which most Java **web** apps are). Among other things, it declares which Servlets exist and which URLs they handle. The part you cite defines a Servlet Filter. Servlet filters can do all kinds of preprocessing on requests.

3. Why we use web .xml?

Generally speaking, this is the configuration file of web applications in java. It instructs the servlet container (tomcat for ex.) which classes to load, what parameters to set in the context, and how to intercept requests coming from browsers.

There you specify:

- what servlets (and filters) you want to use and what URLs you want to map them to
- listeners - classes that are notified when some events happen (context starts, session created, etc)
- configuration parameters (context-params)
- error pages, welcome files
- security constraints

In servlet 3.0 many of the web.xml parts are optional. These configurations can be done via annotations (`@WebServlet`, `@WebListener`).

4. How to modify web.xml to enable https?

To modify the web.xml file to enable HTTPS

1. Open the web.xml file usually located in the $CATALINA_HOME/webapps/moab/WEB-INF/ directory.
2. Add a <security-constraint> section to cause all pages to be hosted with HTTPS.
   Code:

```
<web-app>
  ...
    <security-constraint>
      <web-resource-collection>
        <web-resource-name>Viewpoint Secure URLs</web-resource-name>
```

```
    <url-pattern>/*</url-pattern>
  </web-resource-collection>
  <user-data-constraint>
    <transport-guarantee>CONFIDENTIAL</transport-guarantee>
  </user-data-constraint>
 </security-constraint>
</web-app>
```

MODIYING WEB.XML

The DefaultServlet allows the following initParamters:

Property	Description
`Debug`	Debugging level. It is not very useful unless you are a tomcat developer. As of this writing, useful values are 0, 1, 11, 1000. [0]
`Listings`	If no welcome file is present, can a directory listing be shown? value may be **true** or **false** [false] Welcome files are part of the servlet api. **WARNING:** Listings of directories containing many entries are expensive. Multiple requests for large directory listings can consume significant proportions of server resources.
`Precompressed`	If a precompressed version of a file exists (a file with `.br` or `.gz` appended to the file name located alongside the original file), Tomcat will serve the precompressed file if the user agent supports the matching content encoding (br or gzip) and this option is enabled. [false] The precompressed file with the with `.br` or `.gz` extension will be accessible if requested directly so if the original resource is protected with a security constraint, the precompressed versions must be similarly protected. It is also possible to configure the list of precompressed formats. The syntax is comma separated list of `[content-encoding]=[file-extension]` pairs. For example: `br=.br,gzip=.gz,bzip2=.bz2`. If multiple formats are specified, the client supports more than one and the client does not express a preference, the order of the list of formats will be treated as the server preference order and used to select the format returned.
`ReadmeFile`	If a directory listing is presented, a readme file may also be presented with the listing. This file is inserted as is so it may contain HTML.
`GlobalXsltFile`	If you wish to customize your directory listing, you can use an XSL transformation. This value is a relative file name (to either $CATALINA_BASE/conf/ or $CATALINA_HOME/conf/) which will be used for all directory listings. This can be overridden per context and/or per directory. See **contextXsltFile** and **localXsltFile** below. The format of the xml is shown below.
`contextXsltFile`	You may also customize your directory listing by context by configuring `contextXsltFile`. This must be a context relative path (e.g.: `/path/to/context.xslt`) to a file with a `.xsl` or `.xslt` extension. This overrides `globalXsltFile`. If this value is present but a file does not

	exist, then `globalXsltFile` will be used. If `globalXsltFile` does not exist, then the default directory listing will be shown.
`LocalXsltFile`	You may also customize your directory listing by directory by configuring `localXsltFile`. This must be a file in the directory where the listing will take place to with a `.xsl` or `.xslt` extension. This overrides `globalXsltFile` and `contextXsltFile`. If this value is present but a file does not exist, then `contextXsltFile` will be used. If `contextXsltFile` does not exist, then `globalXsltFile` will be used. If `globalXsltFile` does not exist, then the default directory listing will be shown.
`Input`	Input buffer size (in bytes) when reading resources to be served. [2048]
`Output`	Output buffer size (in bytes) when writing resources to be served. [2048]
`Readonly`	Is this context "read only", so HTTP commands like PUT and DELETE are rejected? [true]
`FileEncoding`	File encoding to be used when reading static resources. [platform default]
`UseBomIfPresent`	If a static file contains a byte order mark (BOM), should this be used to determine the file encoding in preference to fileEncoding. [true]
`SendfileSize`	If the connector used supports sendfile, this represents the minimal file size in KB for which sendfile will be used. Use a negative value to always disable sendfile. [48]
`UseAcceptRanges`	If true, the Accept-Ranges header will be set when appropriate for the response. [true]
`ShowServerInfo`	Should server information be presented in the response sent to clients when directory listing is enabled. [true]
`SortListings`	Should the server sort the listings in a directory. [false]
`sortDirectoriesFirst`	Should the server list all directories before all files. [false]
`AllowPartialPut`	Should the server treat an HTTP PUT request with a Range header as a partial PUT? Note that RFC 7233 clarified that Range headers are only valid for GET requests. [true]

6.Creating web page using PHP.

CODE:

formphp.html — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-6 — Atom

File Edit View Selection Find Packages Help

formphp.html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title></title>
  </head>
  <body>
    <h2>Registration Form</h2>

                <form action="formphp.php" method="POST">

                    First name:
                    <input type="text" name="firstname">

                    <br> Last name:
                    <input type="text" name="lastname">

                    <br> Agree to Terms of Service:
                    <input type="checkbox" name="agree">
                    <br>

                    <input type="hidden" name="form_submitted" value="1" />

                    <input type="submit" value="Submit" >

                </form>
  </body>
</html>
```

C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-6\formphp.html 1:1 CRLF UTF-8 HTML no branch Not on branch GitHub Git (4031)

formphp.php — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-6 — Atom

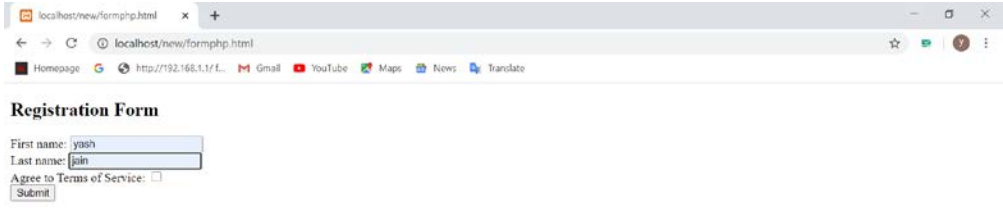
File Edit View Selection Find Packages Help

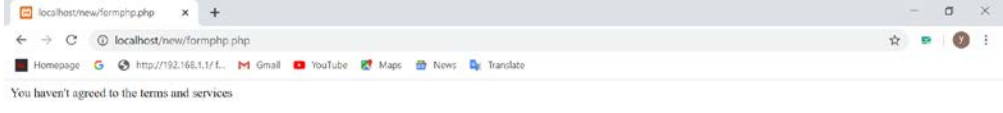
formphp.php

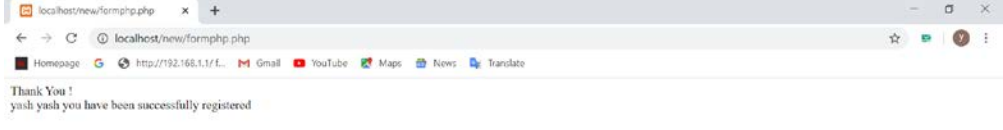
```
<?php
if(isset($_POST["form_submitted"]))
{
    if(!isset($_POST["agree"]))
    echo "You haven't agreed to the terms and services";
    else
    echo "Thank You !<br>".$_POST["firstname"]." ".$_POST["firstname"]." you have been successfully registered";
}
 ?>
```

C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-6\formphp.php 1:1 CRLF UTF-8 PHP no branch Not on branch GitHub Git (4031)

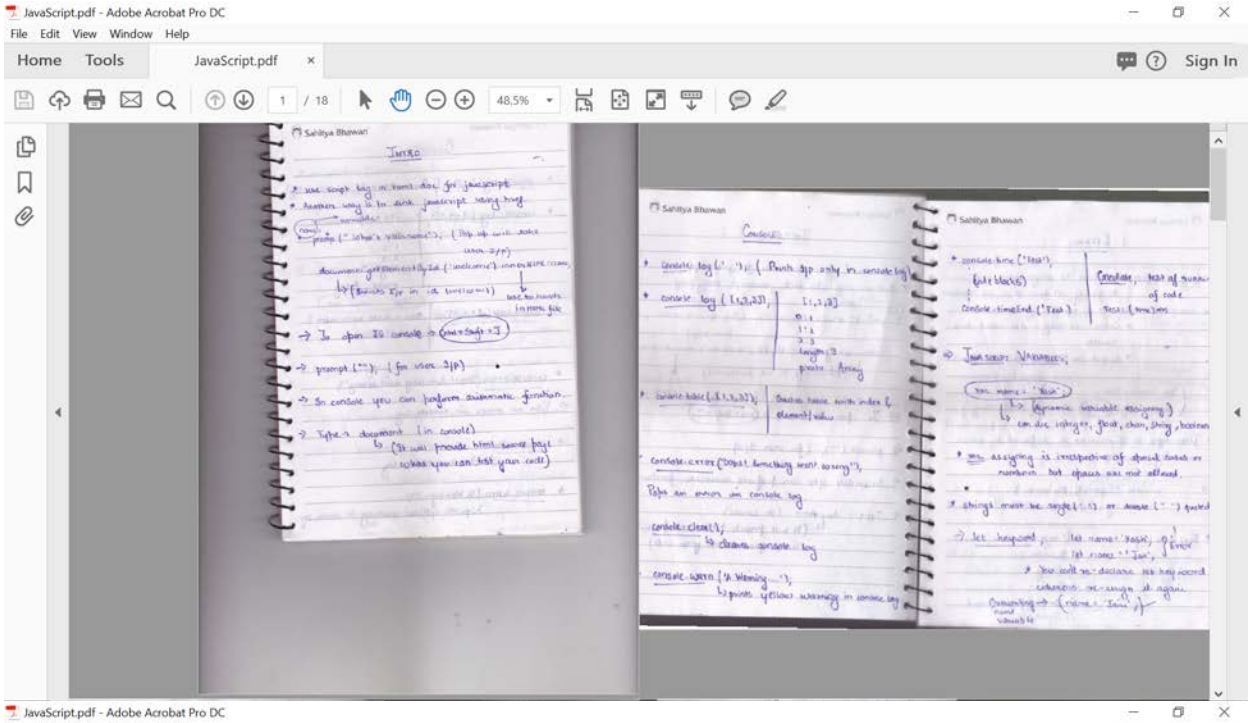
OUTPUT:

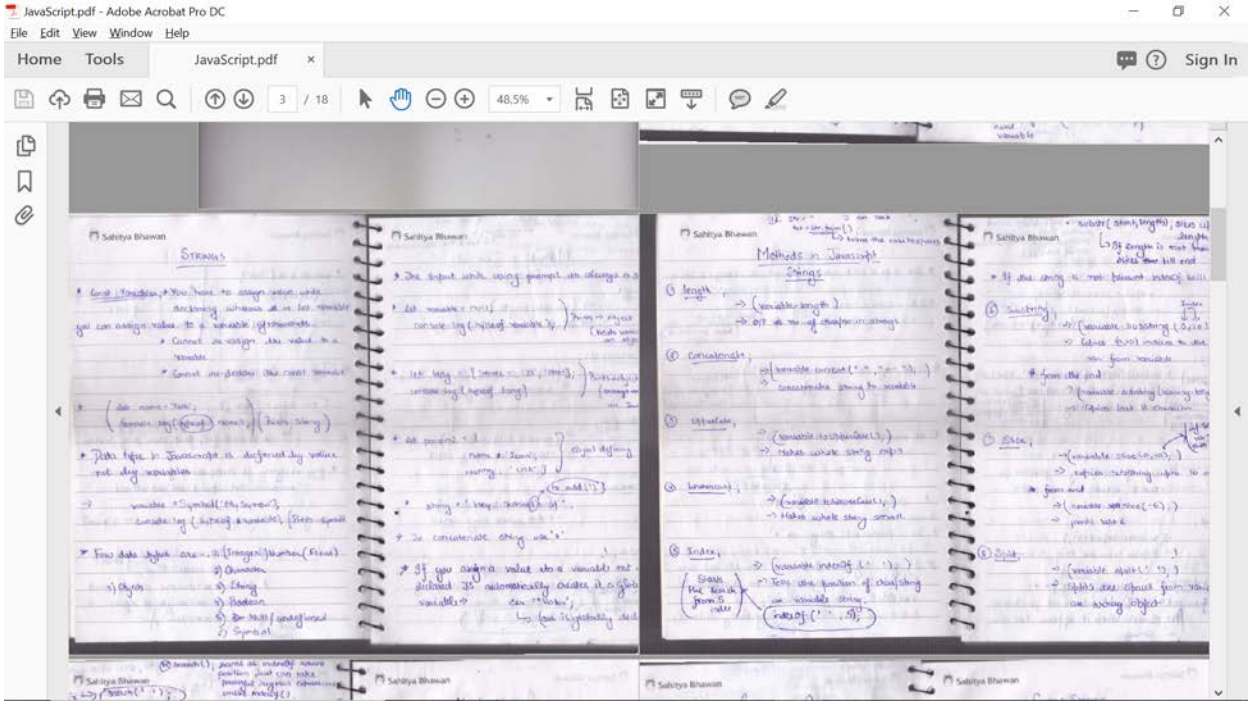

localhost/new/formphp.html
localhost/new/formphp.html
Homepage
Gmail
YouTube
Maps
News
Translate
Registration Form
First name: yash
Last name: jain
Agree to Terms of Service:
Submit

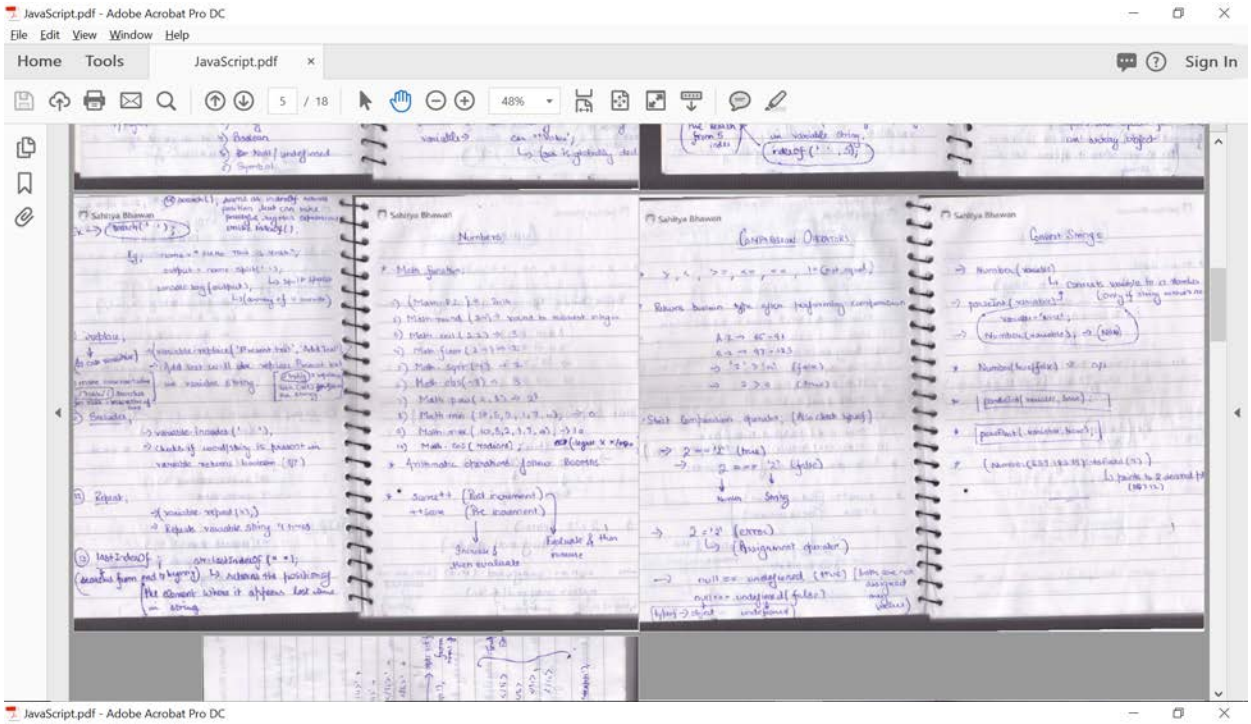

localhost/new/formphp.php
localhost/new/formphp.php
Homepage
Gmail
YouTube
Maps
News
Translate
You haven't agreed to the terms and services

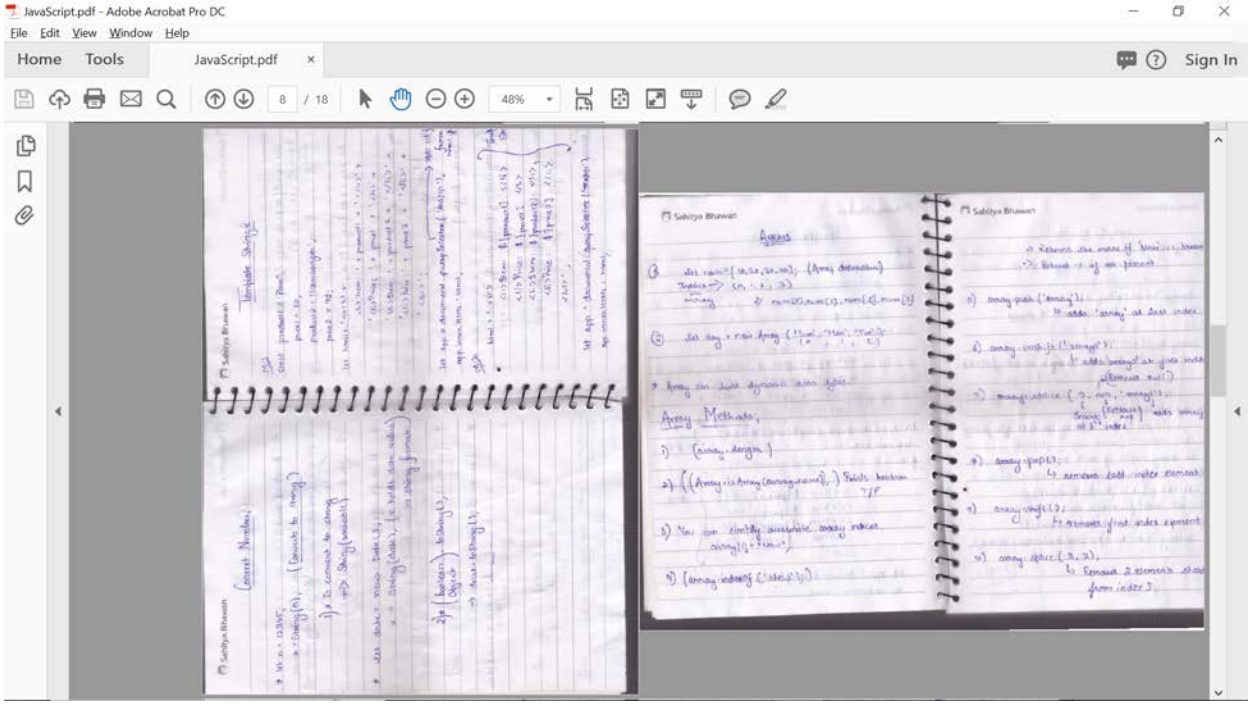

localhost/new/formphp.php
localhost/new/formphp.php
Homepage
Gmail
YouTube
Maps
News
Translate
Thank You !
yash yash you have been successfully registered

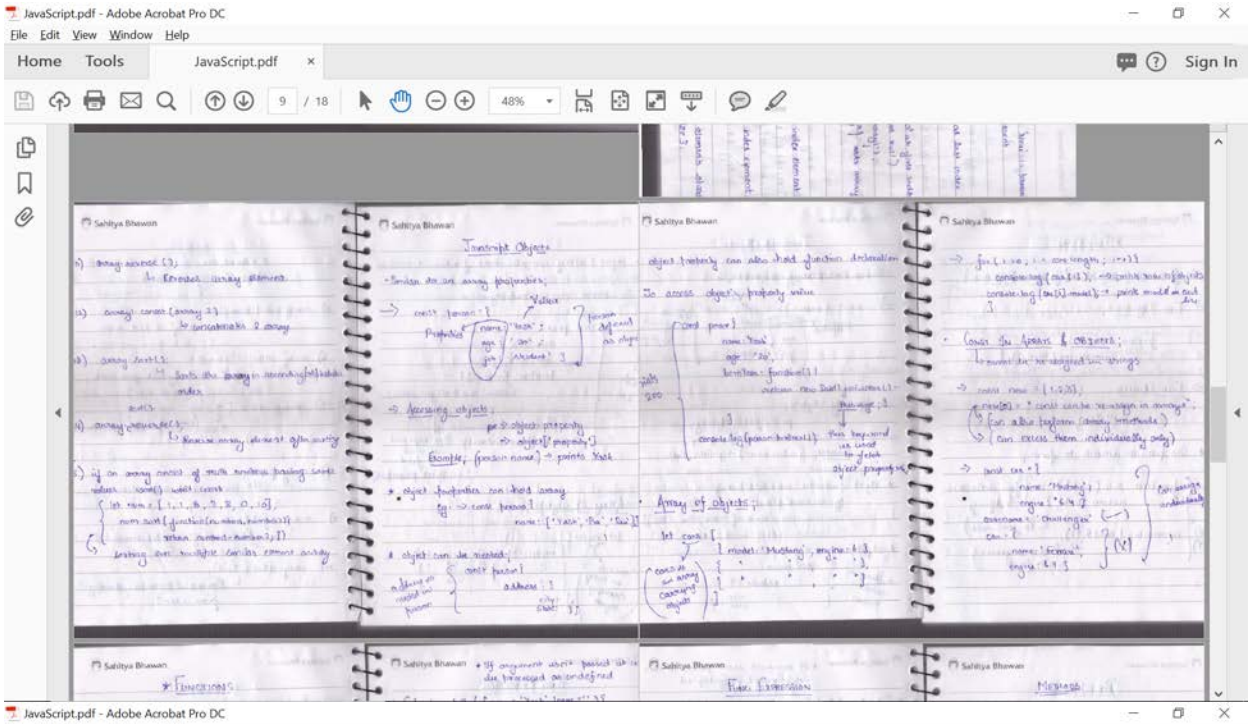
7.Understanding JS.

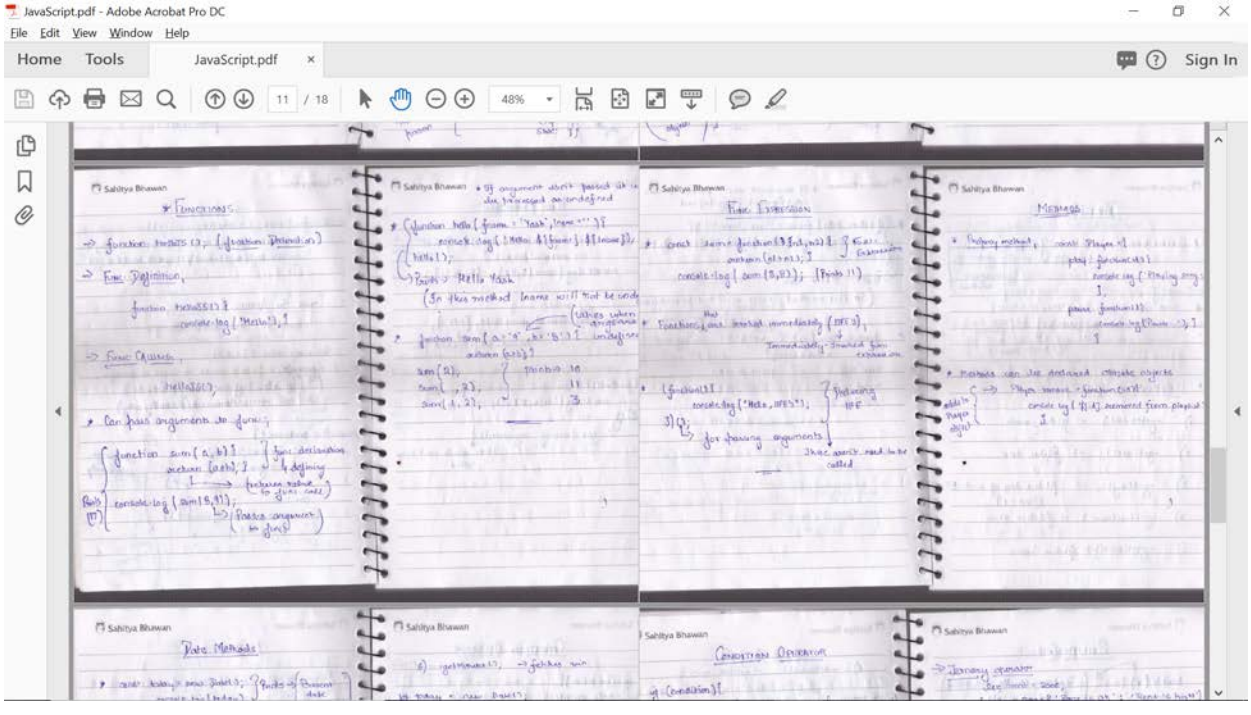


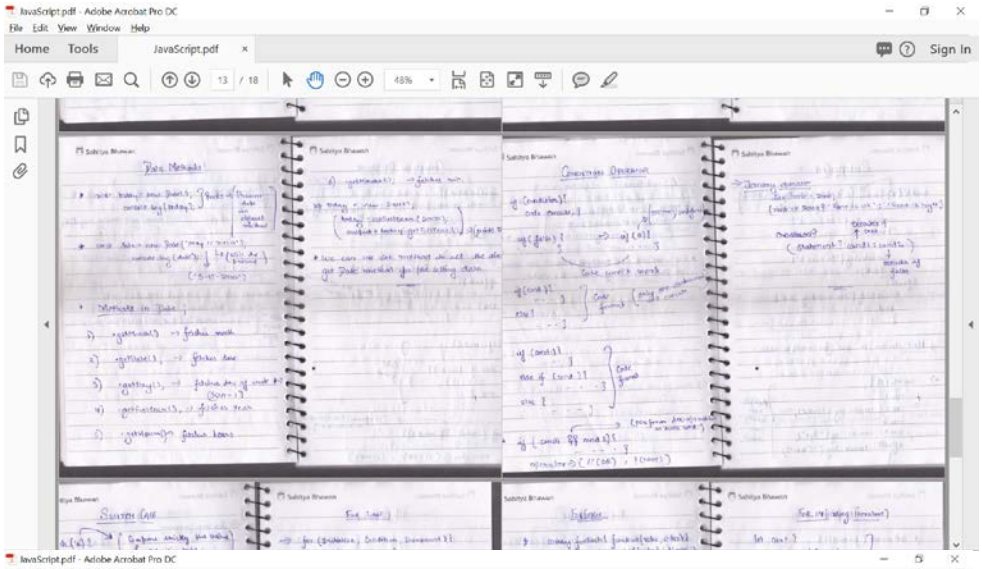


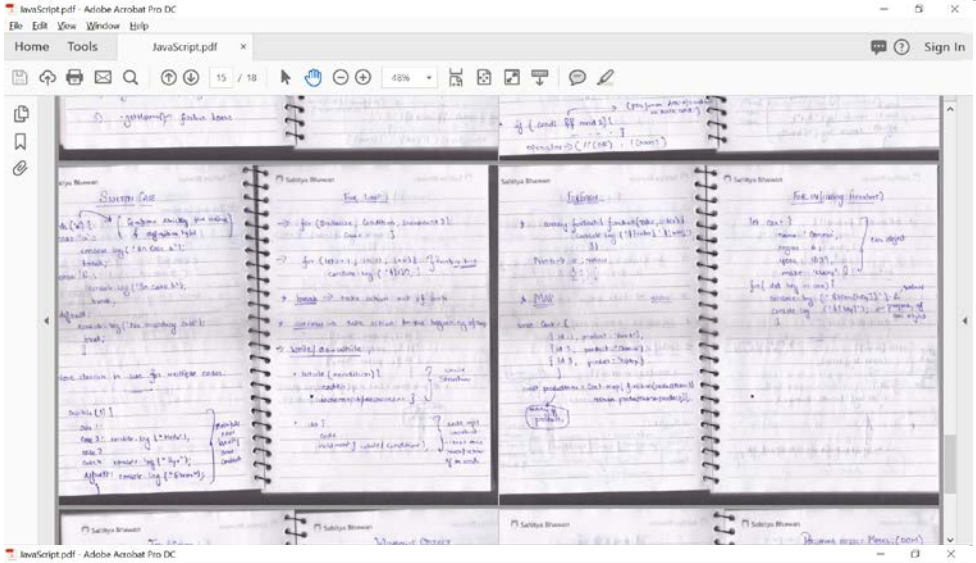

JavaScript.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools JavaScript.pdf
Sign In
5 / 18
48%
Sahitya Bhawan
Numbers
Comparison Operators
Convert Strings

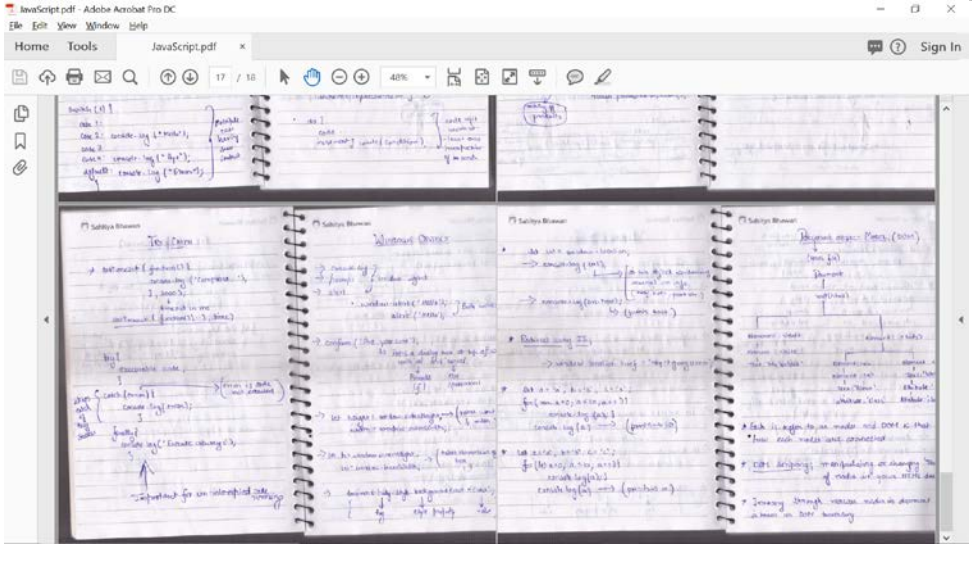

JavaScript.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools JavaScript.pdf
Sign In
8 / 18
48%
Sahitya Bhawan
Arrays
Array Methods


JavaScript.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools JavaScript.pdf
Sign In
9 / 18
48%
Sahitya Bhawan
Javascript Objects
Accessing objects
Array of objects
Functions
Function Expression
Methods


JavaScript.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools JavaScript.pdf
Sign In
11 / 18
48%
Sahitya Bhawan
Functions
Function Definition
Function Calling
Can pass arguments to func
Function Expression
Methods
Date Methods
Condition Operator


JavaScript.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools
JavaScript.pdf
13 / 18
48%
Sign In


JavaScript.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools
JavaScript.pdf
15 / 18
48%
Sign In


JavaScript.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools
JavaScript.pdf
17 / 18
48%
Sign In

8.Creating backend using PHP and frontend with HTML, CSS and JavaScript.

CODE:

registration.php — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-8\File — Atom

File Edit View Selection Find Packages Help

db.php registration.php

```php
<?php
    require_once "db.php";
      if (isset($_POST['signup'])) {
          $name = mysqli_real_escape_string($conn, $_POST['name']);
          $email = mysqli_real_escape_string($conn, $_POST['email']);
          $mobile = mysqli_real_escape_string($conn, $_POST['mobile']);
          $password = mysqli_real_escape_string($conn, $_POST['password']);
          $cpassword = mysqli_real_escape_string($conn, $_POST['cpassword']);
          if (!preg_match("/^[a-zA-Z ]+$/",$name)) {
              $name_error = "Name must contain only alphabets and space";
          }
          if(!filter_var($email,FILTER_VALIDATE_EMAIL)) {
              $email_error = "Please Enter Valid Email ID";
          }
          if(strlen($password) < 6) {
              $password_error = "Password must be minimum of 6 characters";
          }
          if(strlen($mobile) < 10) {
              $mobile_error = "Mobile number must be minimum of 10 characters";
          }
          if($password != $cpassword) {
              $cpassword_error = "Password and Confirm Password doesn't match";
          }
          if (!$error) {
              if(mysqli_query($conn, "INSERT INTO users(name, email, mobile ,password) VALUES('" . $name . "', '" . $email . "', '" . $mobile . "', '" . md5($password) . "')")) {
               header("location: registration.php");
               exit();
              } else {
                echo "Error: " . $sql . "" . mysqli_error($conn);
              }
          }
          mysqli_close($conn);
      }
  <!DOCTYPE html>
  <html lang="en">
  <head>
      <meta charset="UTF-8">
      <title>Simple Registration Form in PHP with Validation | Yutsmake.com</title>
      <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css" rel="stylesheet">
  </head>
  <body>
      <div class="container">
          <div class="row">
              <div class="col-lg-8 col-offset-2">
                  <div class="page-header">
                      <h2>Registration Form in PHP with Validation</h2>
                      ...
```

C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-8\File\registration.php 1:1 CRLF UTF-8 PHP no branch Not on branch GitHub Git (4031)

registration.php — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-8\File — Atom

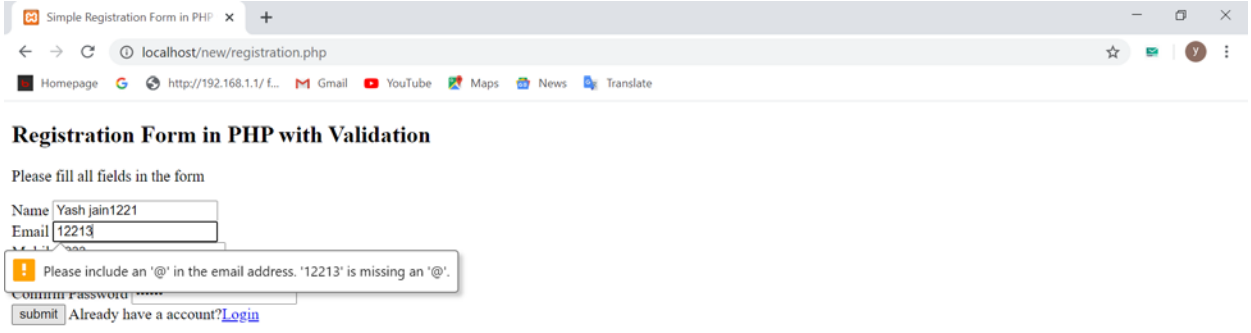
File Edit View Selection Find Packages Help

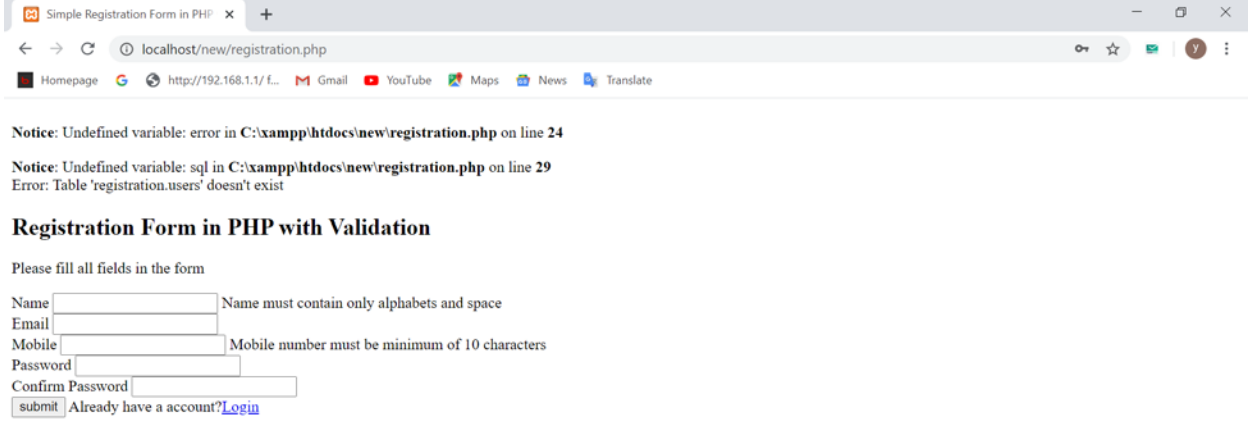
db.php registration.php

```php
                      <h2>Registration Form in PHP with Validation</h2>
                  </div>
                  <p>Please fill all fields in the form</p>
                  <form action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]); ?>" method="post">

                      <div class="form-group">
                          <label>Name</label>
                          <input type="text" name="name" class="form-control" value="" maxlength="50" required="">
                          <span class="text-danger"><?php if (isset($name_error)) echo $name_error; ?></span>
                      </div>

                      <div class="form-group ">
                          <label>Email</label>
                          <input type="email" name="email" class="form-control" value="" maxlength="30" required="">
                          <span class="text-danger"><?php if (isset($email_error)) echo $email_error; ?></span>
                      </div>

                      <div class="form-group">
                          <label>Mobile</label>
                          <input type="text" name="mobile" class="form-control" value="" maxlength="12" required="">
                          <span class="text-danger"><?php if (isset($mobile_error)) echo $mobile_error; ?></span>
                      </div>

                      <div class="form-group">
                          <label>Password</label>
                          <input type="password" name="password" class="form-control" value="" maxlength="8" required="">
                          <span class="text-danger"><?php if (isset($password_error)) echo $password_error; ?></span>
                      </div>

                      <div class="form-group">
                          <label>Confirm Password</label>
                          <input type="password" name="cpassword" class="form-control" value="" maxlength="8" required="">
                          <span class="text-danger"><?php if (isset($cpassword_error)) echo $cpassword_error; ?></span>
                      </div>

                      <input type="submit" class="btn btn-primary" name="signup" value="submit">
                      Already have a account?<a href="login.php" class="btn btn-default">Login</a>
                  </form>
              </div>
          </div>
      </div>
  </body>
  </html>
  ?>
```

C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-8\File\registration.php 90:1 CRLF UTF-8 PHP no branch Not on branch GitHub Git (4031)

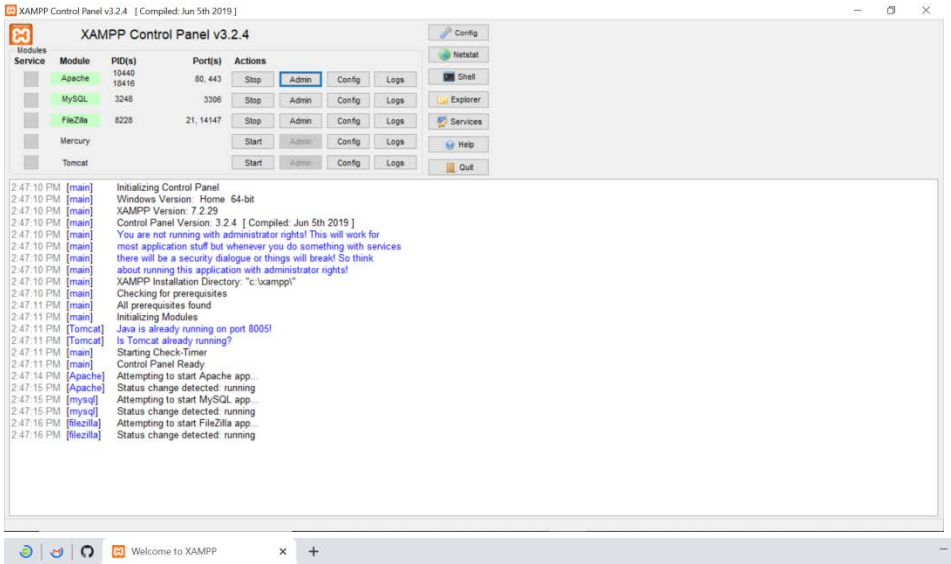
OUTPUT:

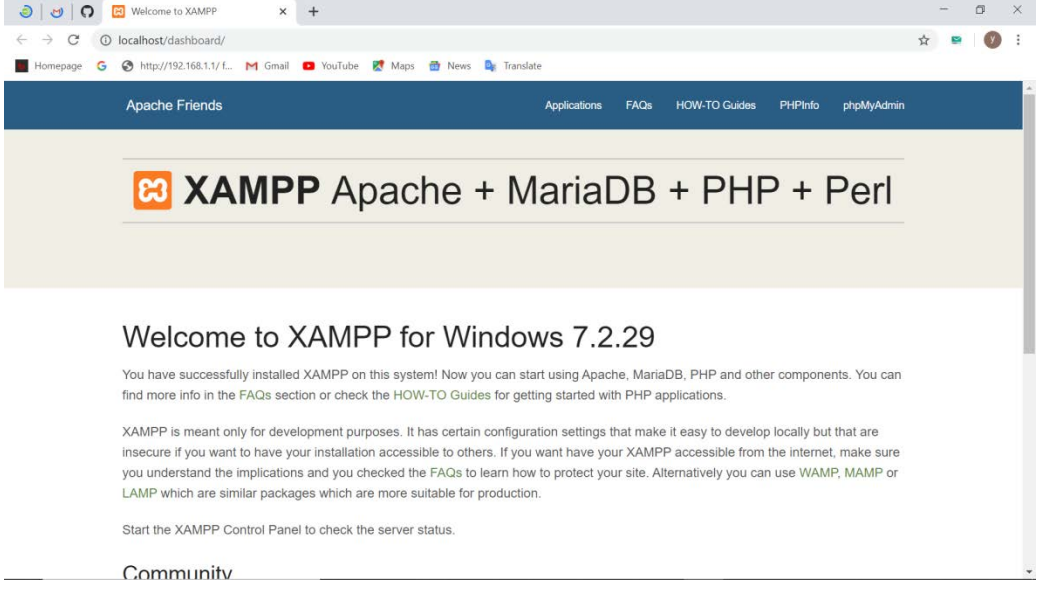

Simple Registration Form in PHP
localhost/new/registration.php
Homepage
http://192.168.1.1/ f...
Gmail
YouTube
Maps
News
Translate
Registration Form in PHP with Validation
Please fill all fields in the form
Name Yash jain1221
Email 12213
Please include an '@' in the email address. '12213' is missing an '@'.
submit Already have a account?Login


Simple Registration Form in PHP
localhost/new/registration.php
Homepage
http://192.168.1.1/ f...
Gmail
YouTube
Maps
News
Translate
Notice: Undefined variable: error in C:\xampp\htdocs\new\registration.php on line 24
Notice: Undefined variable: sql in C:\xampp\htdocs\new\registration.php on line 29
Error: Table 'registration.users' doesn't exist
Registration Form in PHP with Validation
Please fill all fields in the form
Name Name must contain only alphabets and space
Email
Mobile Mobile number must be minimum of 10 characters
Password
Confirm Password
submit Already have a account?Login

Hoisting on XAMPP Server (Apache Tomcat)

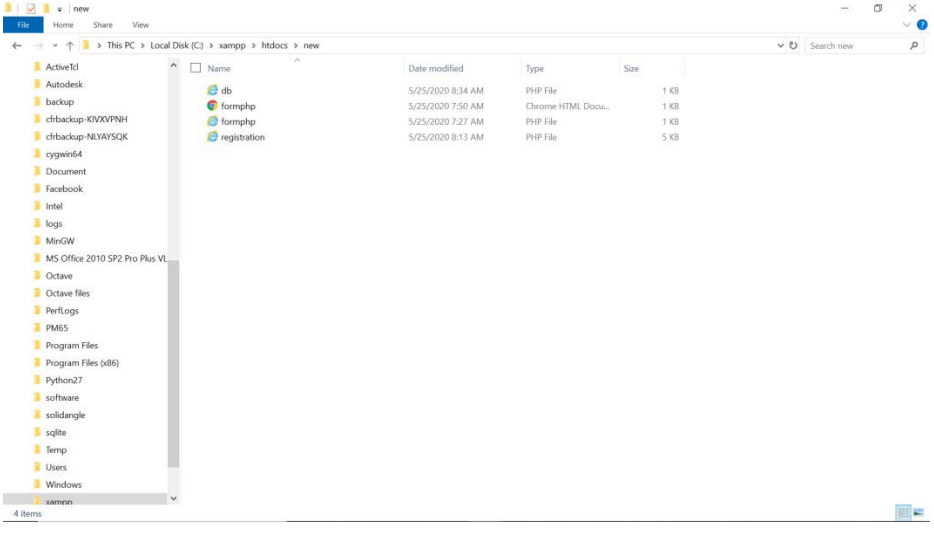
1. Install the XAMPP Server on your system as per the system requirements.
2. Configure the Apache Server on Starting the port and PIDs will be assigned to your system
3. Start MySQL for database if present in your document or simply create the database in myPhpAdmin in Xampp localhost/dashboard.



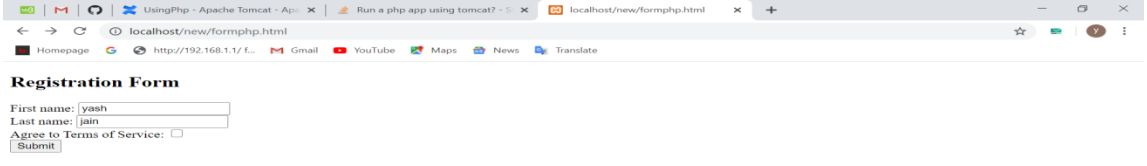


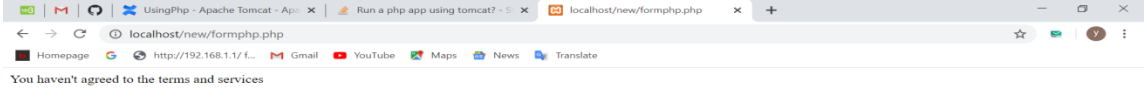
Now open Xampp folder in c directory and open htdocs folder

1. Create new folder(new) for running php on Apache.
    a. C:\xampp\htdocs\new
2. Now save the php and html file in new folder.



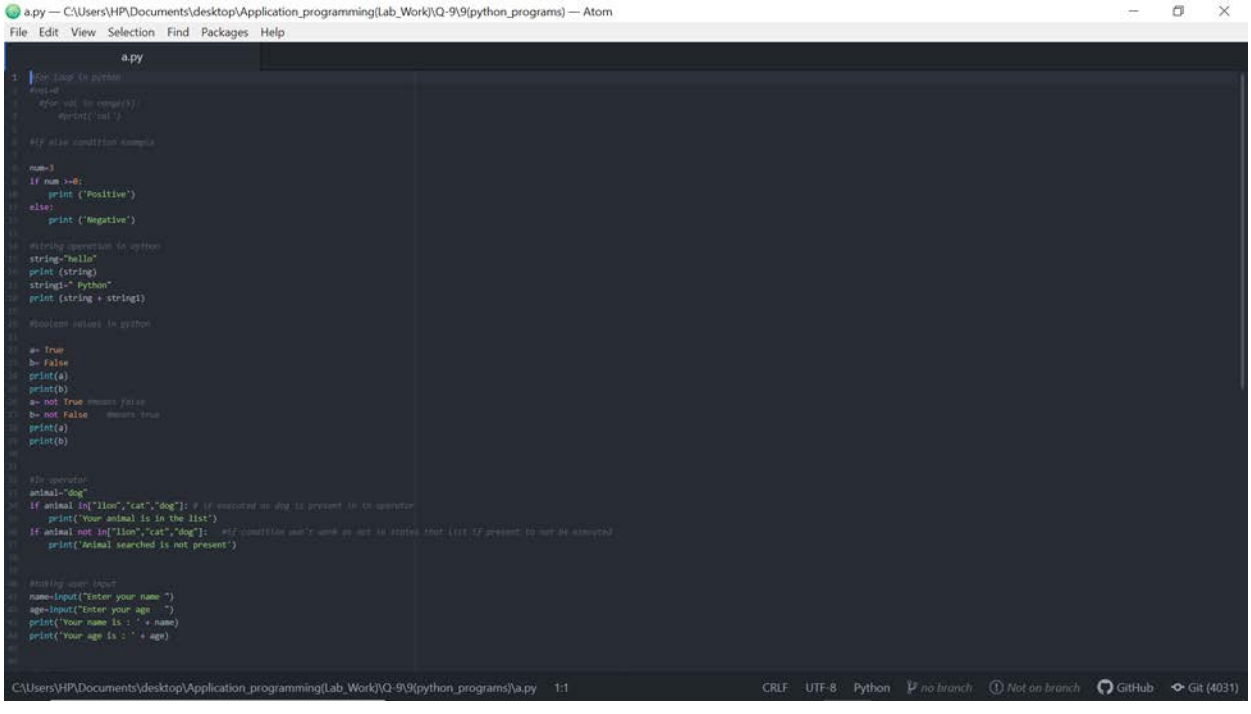
3. Open localhost in browser then provide the following address to run php.

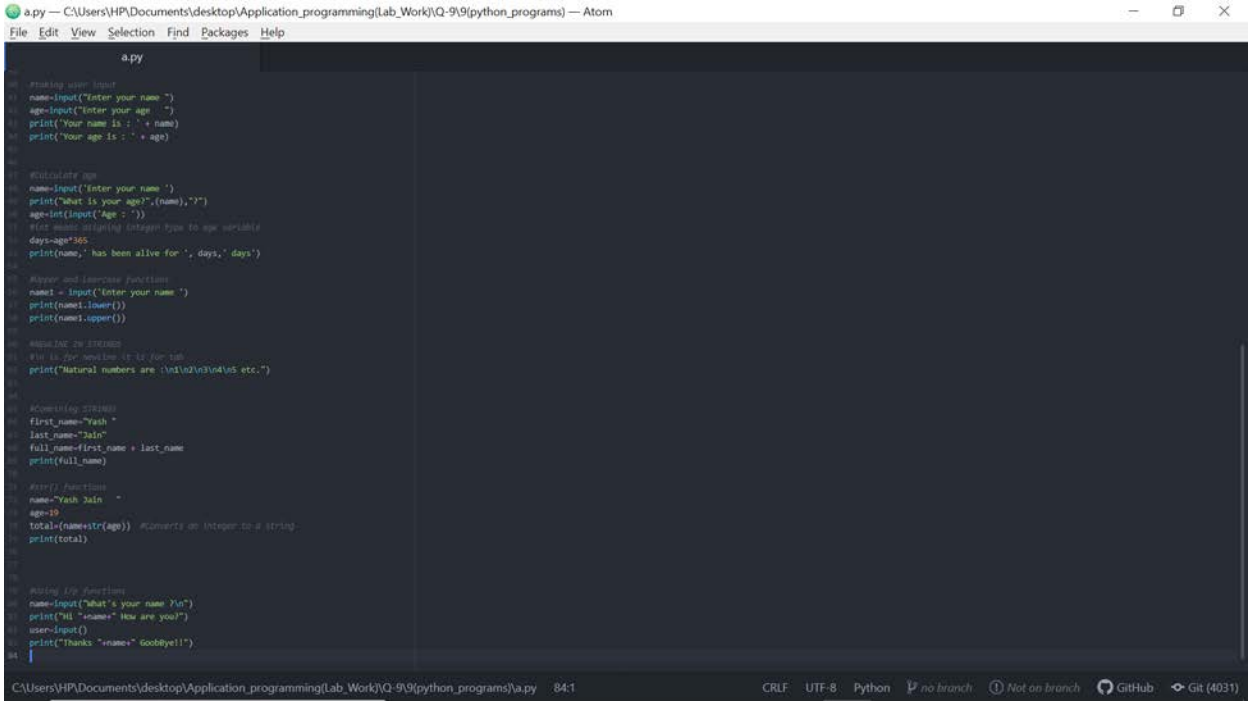




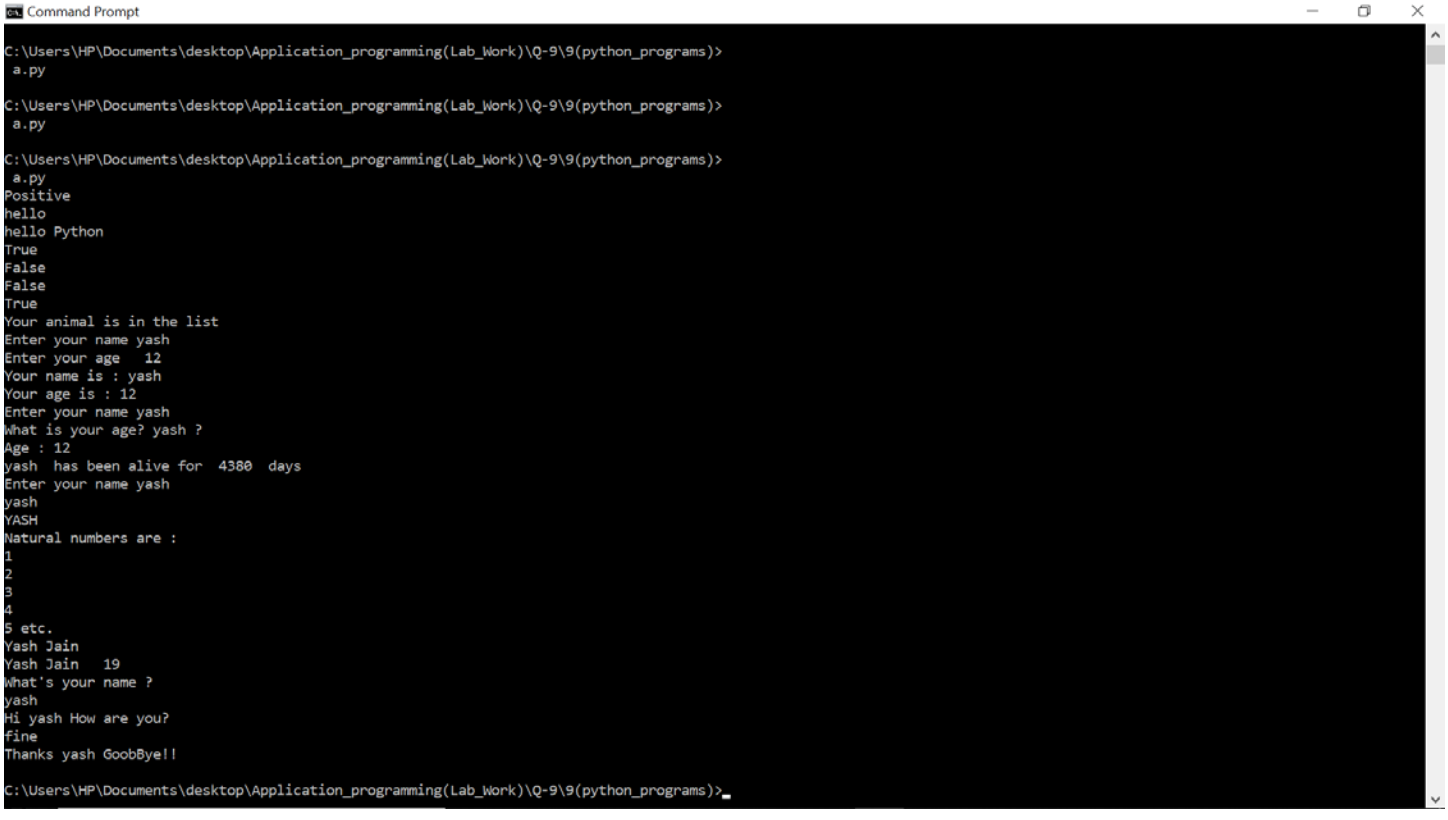
9.Writing and Understanding python.

CODE:



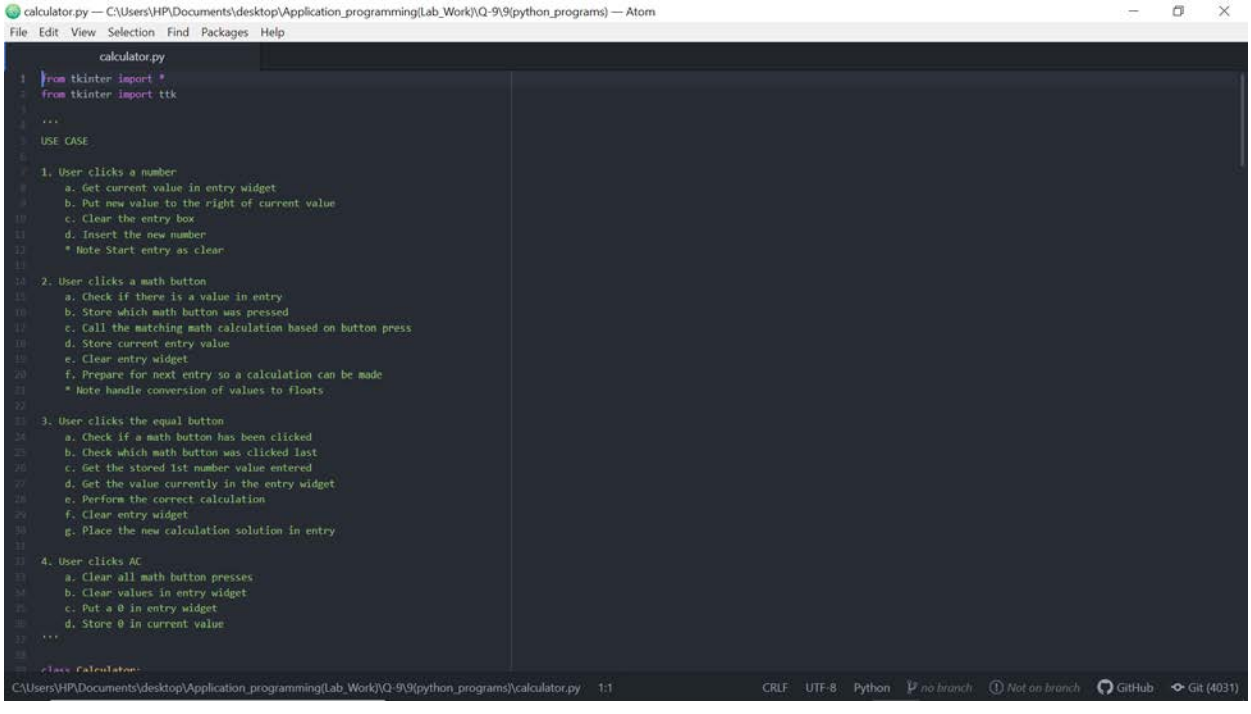


OUTPUT:

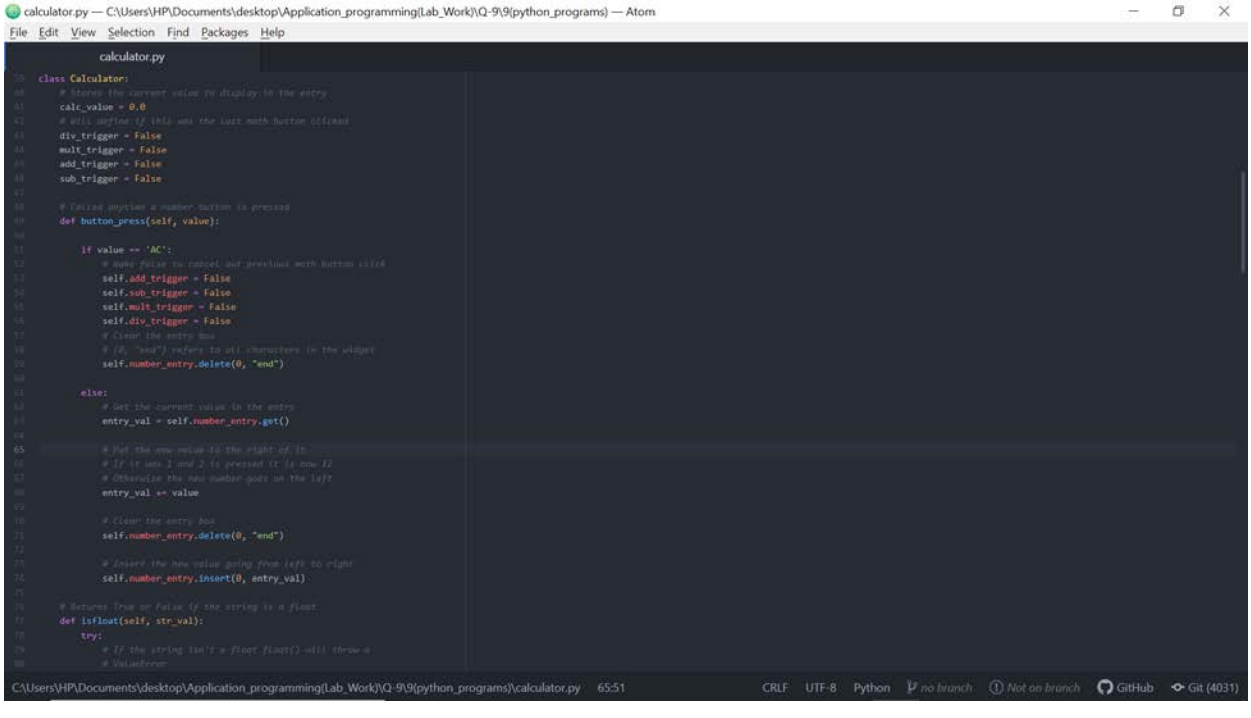

Command Prompt
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)>
a.py
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)>
a.py
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)>
a.py
Positive
hello
hello Python
True
False
False
True
Your animal is in the list
Enter your name yash
Enter your age 12
Your name is : yash
Your age is : 12
Enter your name yash
What is your age? yash ?
Age : 12
yash has been alive for 4380 days
Enter your name yash
yash
YASH
Natural numbers are :
1
2
3
4
5 etc.
Yash Jain
Yash Jain 19
What's your name ?
yash
Hi yash How are you?
fine
Thanks yash GoobBye!!
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)>

10.Using python libraries for mathematics calculations.

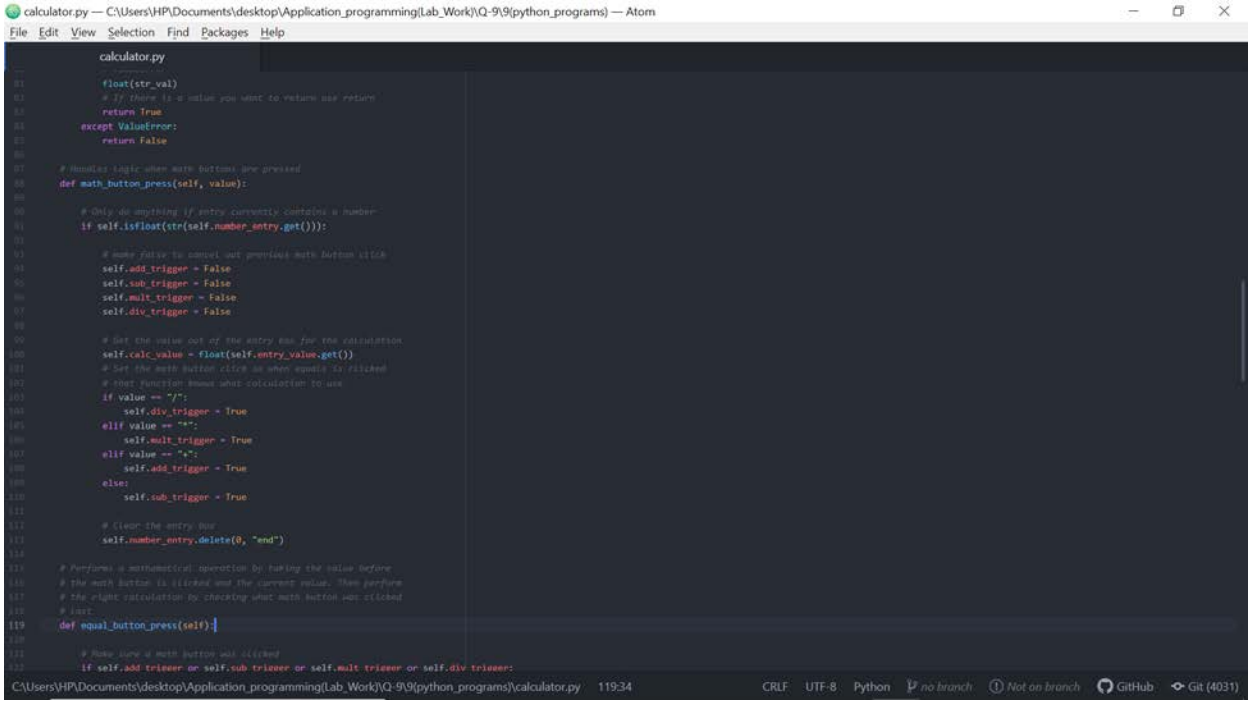
CODE:



```
from tkinter import *
from tkinter import ttk

'''
USE CASE

1. User clicks a number
    a. Get current value in entry widget
    b. Put new value to the right of current value
    c. Clear the entry box
    d. Insert the new number
    * Note Start entry as clear

2. User clicks a math button
    a. Check if there is a value in entry
    b. Store which math button was pressed
    c. Call the matching math calculation based on button press
    d. Store current entry value
    e. Clear entry widget
    f. Prepare for next entry so a calculation can be made
    * Note handle conversion of values to floats

3. User clicks the equal button
    a. Check if a math button has been clicked
    b. Check which math button was clicked last
    c. Get the stored 1st number value entered
    d. Get the value currently in the entry widget
    e. Perform the correct calculation
    f. Clear entry widget
    g. Place the new calculation solution in entry

4. User clicks AC
    a. Clear all math button presses
    b. Clear values in entry widget
    c. Put a 0 in entry widget
    d. Store 0 in current value
'''

class Calculator:
```



```
class Calculator:
    # Stores the current value to display in the entry
    calc_value = 0.0
    # Will define if this was the last math button clicked
    div_trigger = False
    mult_trigger = False
    add_trigger = False
    sub_trigger = False

    # Called anytime a number button is pressed
    def button_press(self, value):

        if value == 'AC':
            # Make false to cancel out previous math button click
            self.add_trigger = False
            self.sub_trigger = False
            self.mult_trigger = False
            self.div_trigger = False
            # Clear the entry box
            # (0, "end") refers to all characters in the widget
            self.number_entry.delete(0, "end")

        else:
            # Get the current value in the entry
            entry_val = self.number_entry.get()

            # Put the new value to the right of it
            # If it was 1 and 2 is pressed it is now 12
            # Otherwise the new number goes on the left
            entry_val += value

            # Clear the entry box
            self.number_entry.delete(0, "end")

            # Insert the new value going from left to right
            self.number_entry.insert(0, entry_val)

    # Returns True or False if the string is a float
    def isfloat(self, str_val):
        try:
            # If the string isn't a float float() will throw a
            # ValueError
```


calculator.py — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs) — Atom
File Edit View Selection Find Packages Help
calculator.py
float(str_val)
# If there is a value you want to return use return
return True
except ValueError:
return False
# Handles logic when math buttons are pressed
def math_button_press(self, value):
# Only do anything if entry currently contains a number
if self.isfloat(str(self.number_entry.get())):
# make false to cancel out previous math button click
self.add_trigger = False
self.sub_trigger = False
self.mult_trigger = False
self.div_trigger = False
# Get the value out of the entry box for the calculation
self.calc_value = float(self.entry_value.get())
# Set the math button click so when equals is clicked
# that function knows what calculation to use
if value == "/":
self.div_trigger = True
elif value == "*":
self.mult_trigger = True
elif value == "+":
self.add_trigger = True
else:
self.sub_trigger = True
# Clear the entry box
self.number_entry.delete(0, "end")
# Performs a mathematical operation by taking the value before
# the math button is clicked and the current value. Then perform
# the right calculation by checking what math button was clicked
# last
def equal_button_press(self):
# Make sure a math button was clicked
if self.add_trigger or self.sub_trigger or self.mult_trigger or self.div_trigger:
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)\calculator.py 119:34
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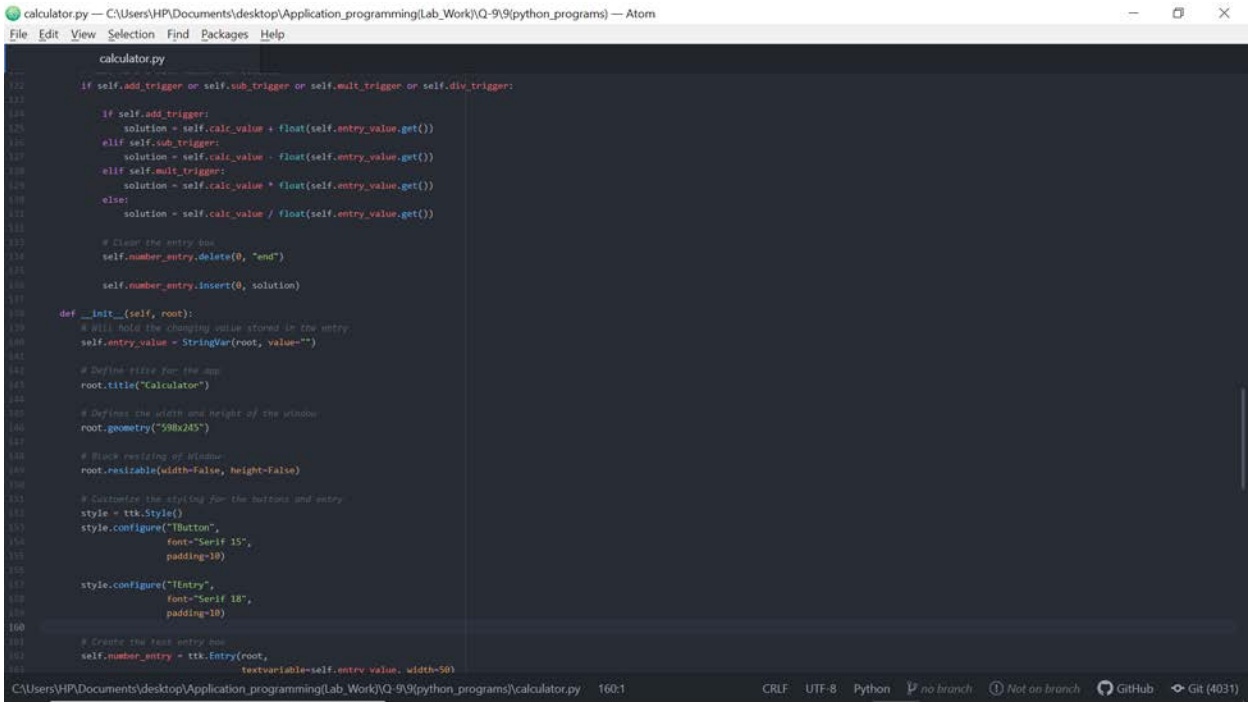
calculator.py — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs) — Atom
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calculator.py
if self.add_trigger or self.sub_trigger or self.mult_trigger or self.div_trigger:
if self.add_trigger:
solution = self.calc_value + float(self.entry_value.get())
elif self.sub_trigger:
solution = self.calc_value - float(self.entry_value.get())
elif self.mult_trigger:
solution = self.calc_value * float(self.entry_value.get())
else:
solution = self.calc_value / float(self.entry_value.get())
# Clear the entry box
self.number_entry.delete(0, "end")
self.number_entry.insert(0, solution)
def __init__(self, root):
# Will hold the changing value stored in the entry
self.entry_value = StringVar(root, value="")
# Define title for the app
root.title("Calculator")
# Defines the width and height of the window
root.geometry("598x245")
# Block resizing of Window
root.resizable(width=False, height=False)
# Customize the styling for the buttons and entry
style = ttk.Style()
style.configure("TButton",
font="Serif 15",
padding=10)
style.configure("TEntry",
font="Serif 18",
padding=10)
# Create the text entry box
self.number_entry = ttk.Entry(root,
textvariable=self.entry_value, width=50)
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)\calculator.py 160:1
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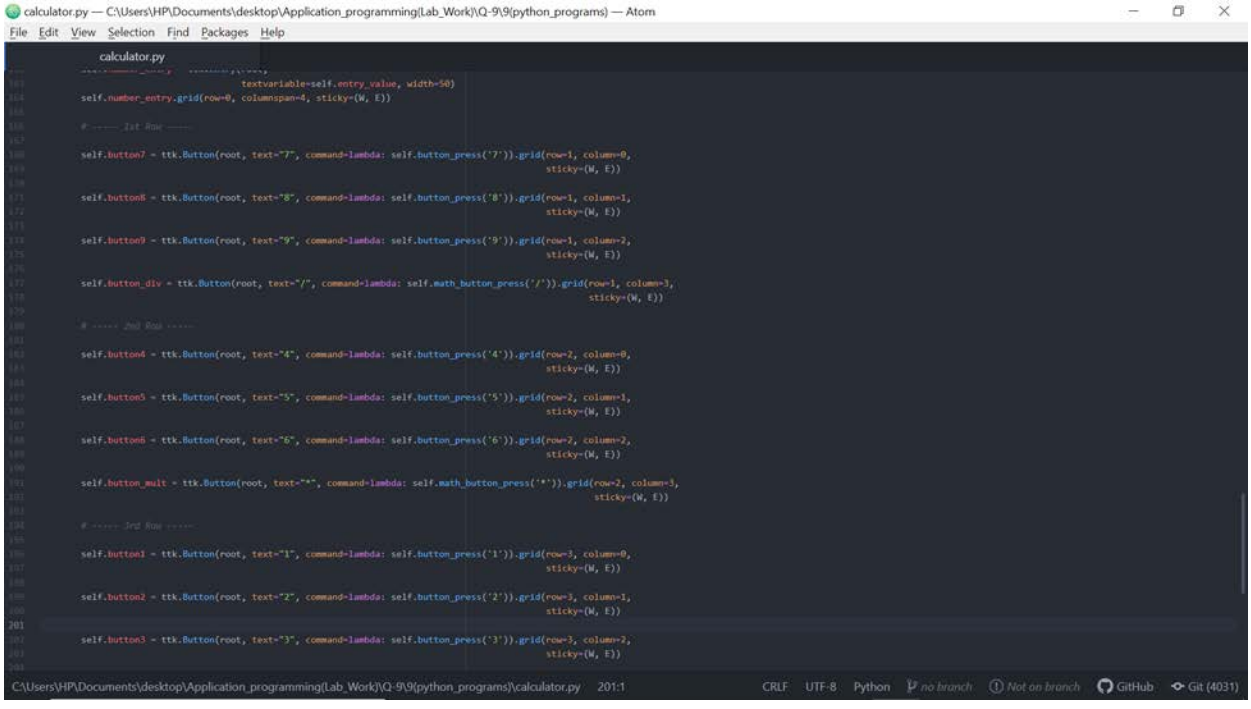
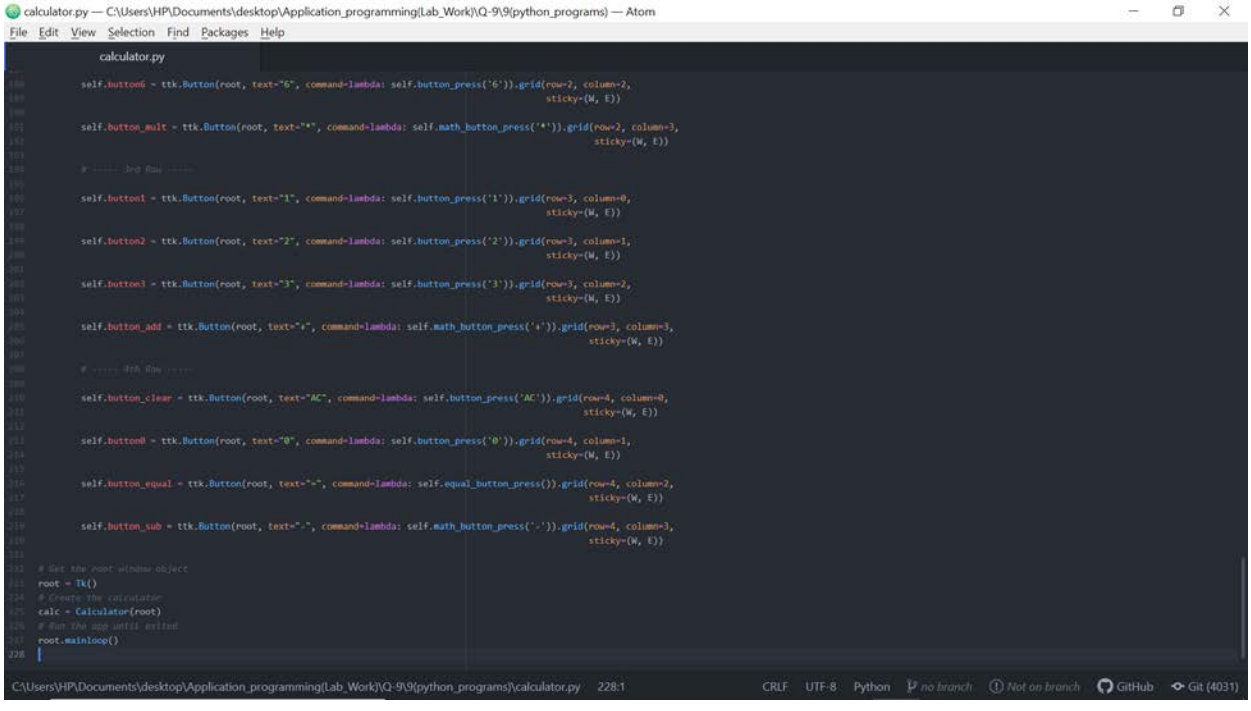
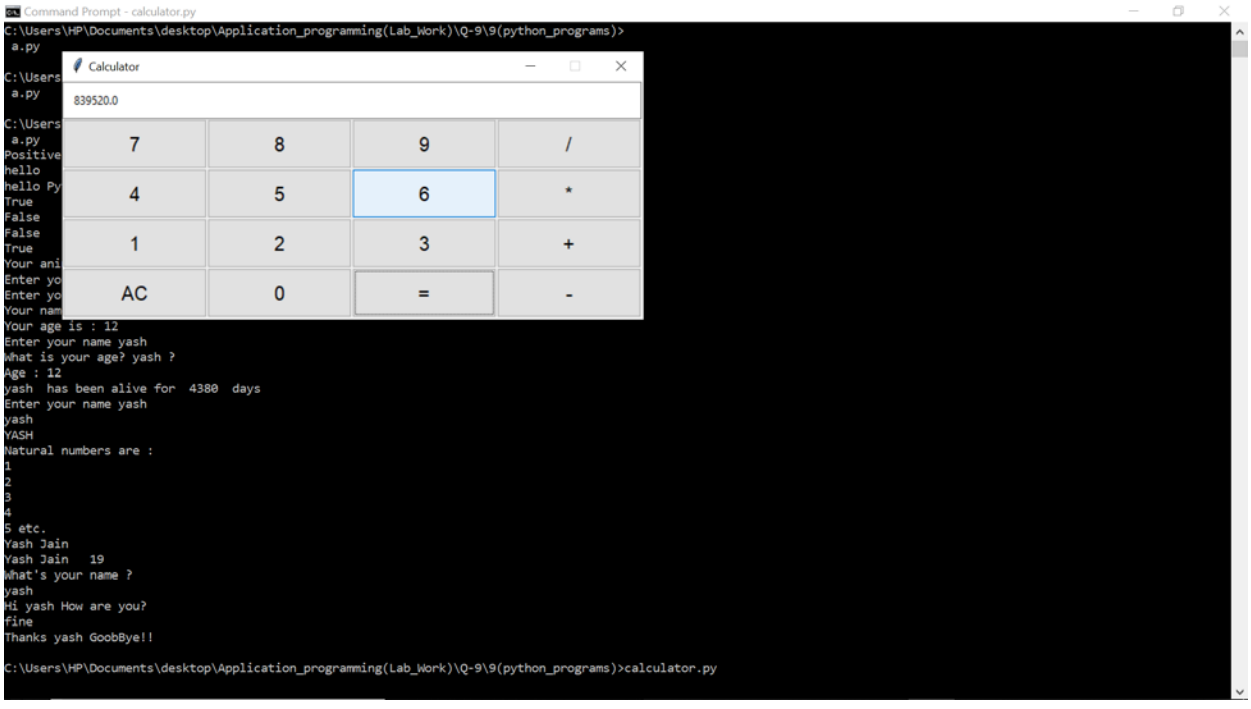

calculator.py — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs) — Atom
File Edit View Selection Find Packages Help
calculator.py
textvariable=self.entry_value, width=50)
self.number_entry.grid(row=0, columnspan=4, sticky=(W, E))
# ----- 1st Row -----
self.button7 = ttk.Button(root, text="7", command=lambda: self.button_press('7')).grid(row=1, column=0,
sticky=(W, E))
self.button8 = ttk.Button(root, text="8", command=lambda: self.button_press('8')).grid(row=1, column=1,
sticky=(W, E))
self.button9 = ttk.Button(root, text="9", command=lambda: self.button_press('9')).grid(row=1, column=2,
sticky=(W, E))
self.button_div = ttk.Button(root, text="/", command=lambda: self.math_button_press('/')).grid(row=1, column=3,
sticky=(W, E))
# ----- 2nd Row -----
self.button4 = ttk.Button(root, text="4", command=lambda: self.button_press('4')).grid(row=2, column=0,
sticky=(W, E))
self.button5 = ttk.Button(root, text="5", command=lambda: self.button_press('5')).grid(row=2, column=1,
sticky=(W, E))
self.button6 = ttk.Button(root, text="6", command=lambda: self.button_press('6')).grid(row=2, column=2,
sticky=(W, E))
self.button_mult = ttk.Button(root, text="*", command=lambda: self.math_button_press('*')).grid(row=2, column=3,
sticky=(W, E))
# ----- 3rd Row -----
self.button1 = ttk.Button(root, text="1", command=lambda: self.button_press('1')).grid(row=3, column=0,
sticky=(W, E))
self.button2 = ttk.Button(root, text="2", command=lambda: self.button_press('2')).grid(row=3, column=1,
sticky=(W, E))
self.button3 = ttk.Button(root, text="3", command=lambda: self.button_press('3')).grid(row=3, column=2,
sticky=(W, E))
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)\calculator.py 201:1
CRLF UTF-8 Python no branch Not on branch GitHub Git (4031)


calculator.py — C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs) — Atom
File Edit View Selection Find Packages Help
calculator.py
self.button6 = ttk.Button(root, text="6", command=lambda: self.button_press('6')).grid(row=2, column=2,
sticky=(W, E))
self.button_mult = ttk.Button(root, text="*", command=lambda: self.math_button_press('*')).grid(row=2, column=3,
sticky=(W, E))
# ----- 3rd Row -----
self.button1 = ttk.Button(root, text="1", command=lambda: self.button_press('1')).grid(row=3, column=0,
sticky=(W, E))
self.button2 = ttk.Button(root, text="2", command=lambda: self.button_press('2')).grid(row=3, column=1,
sticky=(W, E))
self.button3 = ttk.Button(root, text="3", command=lambda: self.button_press('3')).grid(row=3, column=2,
sticky=(W, E))
self.button_add = ttk.Button(root, text="+", command=lambda: self.math_button_press('+')).grid(row=3, column=3,
sticky=(W, E))
# ----- 4th Row -----
self.button_clear = ttk.Button(root, text="AC", command=lambda: self.button_press('AC')).grid(row=4, column=0,
sticky=(W, E))
self.button0 = ttk.Button(root, text="0", command=lambda: self.button_press('0')).grid(row=4, column=1,
sticky=(W, E))
self.button_equal = ttk.Button(root, text="=", command=lambda: self.equal_button_press()).grid(row=4, column=2,
sticky=(W, E))
self.button_sub = ttk.Button(root, text="-", command=lambda: self.math_button_press('-')).grid(row=4, column=3,
sticky=(W, E))
# Get the root window object
root = Tk()
# Create the calculator
calc = Calculator(root)
# Run the app until exited
root.mainloop()
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)\calculator.py 228:1
CRLF UTF-8 Python no branch Not on branch GitHub Git (4031)

OUTPUT:


Command Prompt - calculator.py
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)>
a.py
Calculator
839520.0
7
8
9
/
4
5
6
*
1
2
3
+
AC
0
=
-
Positive
hello
hello Py
True
False
False
True
Your age is : 12
Enter your name yash
what is your age? yash ?
Age : 12
yash has been alive for 4380 days
Enter your name yash
yash
YASH
Natural numbers are :
1
2
3
4
5 etc.
Yash Jain
Yash Jain 19
what's your name ?
yash
Hi yash How are you?
fine
Thanks yash GoobBye!!
C:\Users\HP\Documents\desktop\Application_programming(Lab_Work)\Q-9\9(python_programs)>calculator.py