Experiment 1: Write an Algorithm for following problems.

1. Add Two Numbers

Step 1: Start

Step 2: Read two numbers, a and b

Step 3: Sum = a + b

Step 4: Display 'Sum'

Step 5: Stop

2. Find the largest of 3 Numbers

Step 1: Start

Step 2: Read 3 numbers, a, b and c

Step 3: if a > b and a > c, then Go to Step 4. Otherwise, Go to Step 5.

Step 4: Display 'a is largest number'

Step 5: if b > c, then Go to Step 6. Otherwise, Go to Step 7.

Step 6: Display 'b is largest number'

Step 7: Display 'c is largest number'

Step 8: Stop

3. Calculate and print sum of 'N' numbers

Step 1: Start

Step 2: Read N

Step 3: Set i=1 and Sum = 0

Step 4: if i <= N, then Go to Step 5. Otherwise, Go to Step 6.

Step 5: Sum = Sum + i

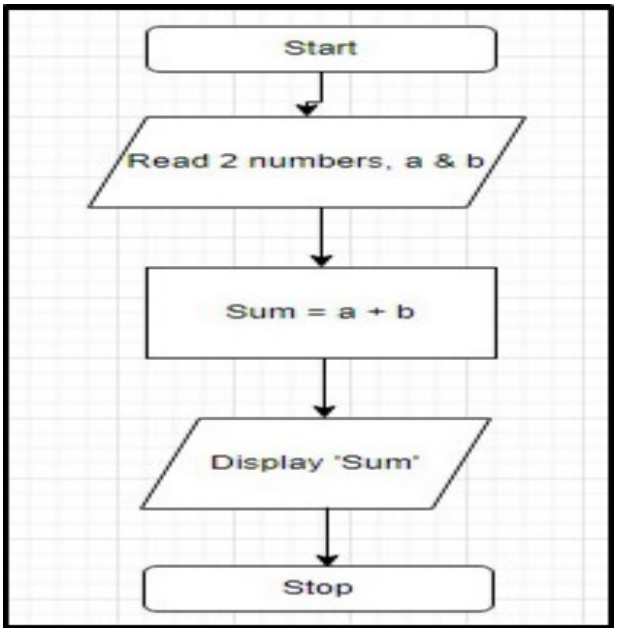
i = i + 1, then Go to Step 4

Step 6: Display 'Sum'

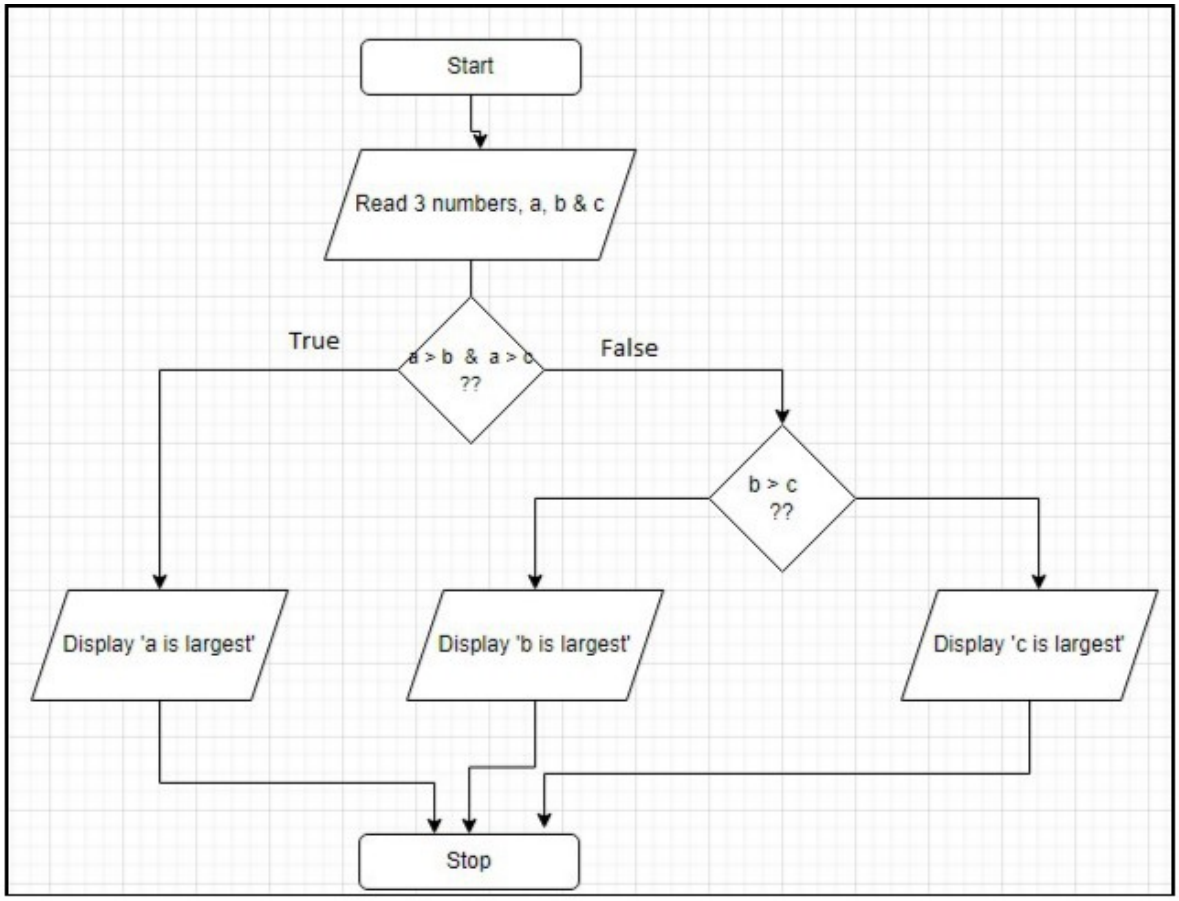
Step 7: Stop

Experiment 2: Design a Flowchart for following problems.

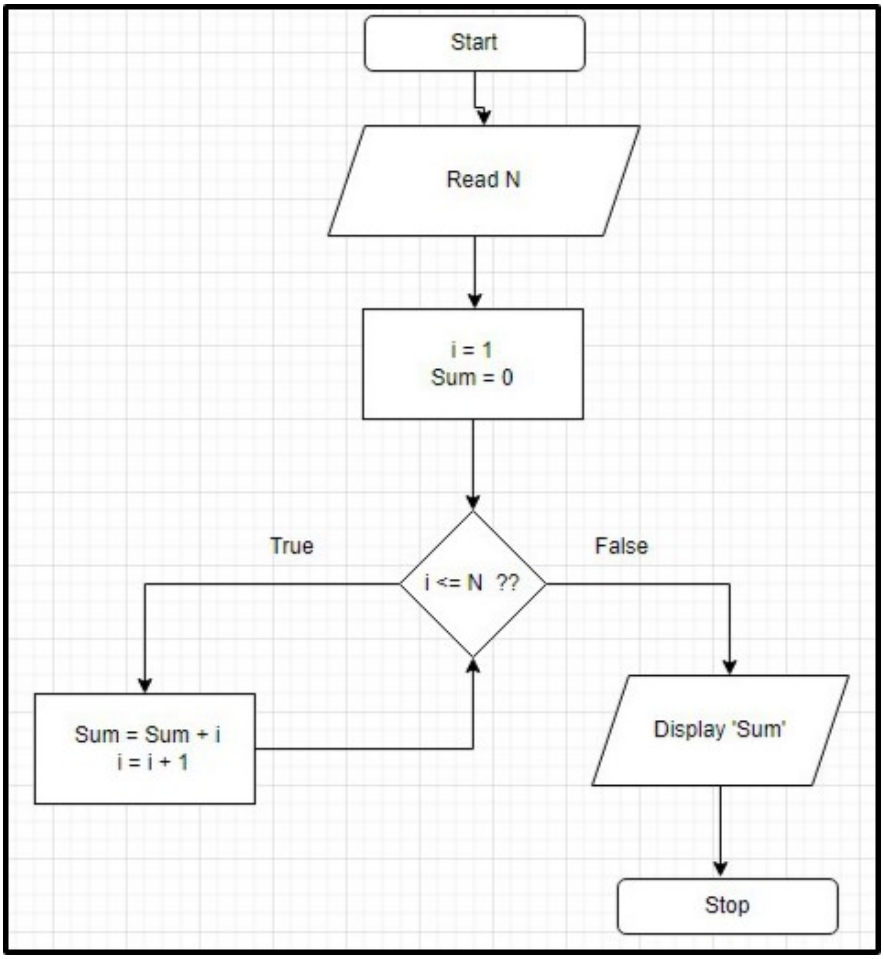
1. Add Two Numbers



2. Find the largest of 3 Numbers



3. Calculate and print sum of ‘N’ numbers

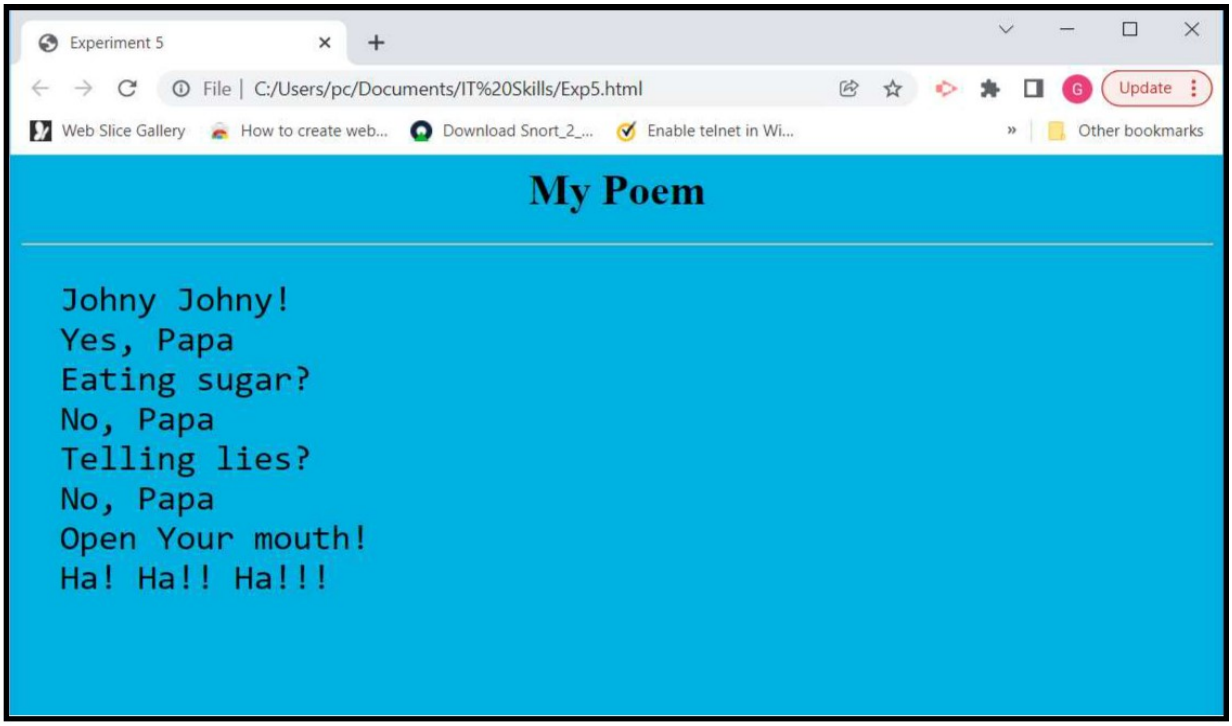


Experiment 3: Design and create webpage for displaying your poem.

Exp3.html

```
<html>
    <head>
        <title>Experiment 3</title>
    </head>
    <body bgcolor='sky blue' color='red'>
        <center><h1>My Poem</h1></center>
         <hr>
         <font size=6>
         <pre>
         Johny Johny!
         Yes, Papa
         Eating sugar?
         No, Papa
         Telling lies?
         No, Papa
         Open Your mouth!
         Ha! Ha!! Ha!!!
         </pre>
         </font>
    </body>
</html>
```

Output:

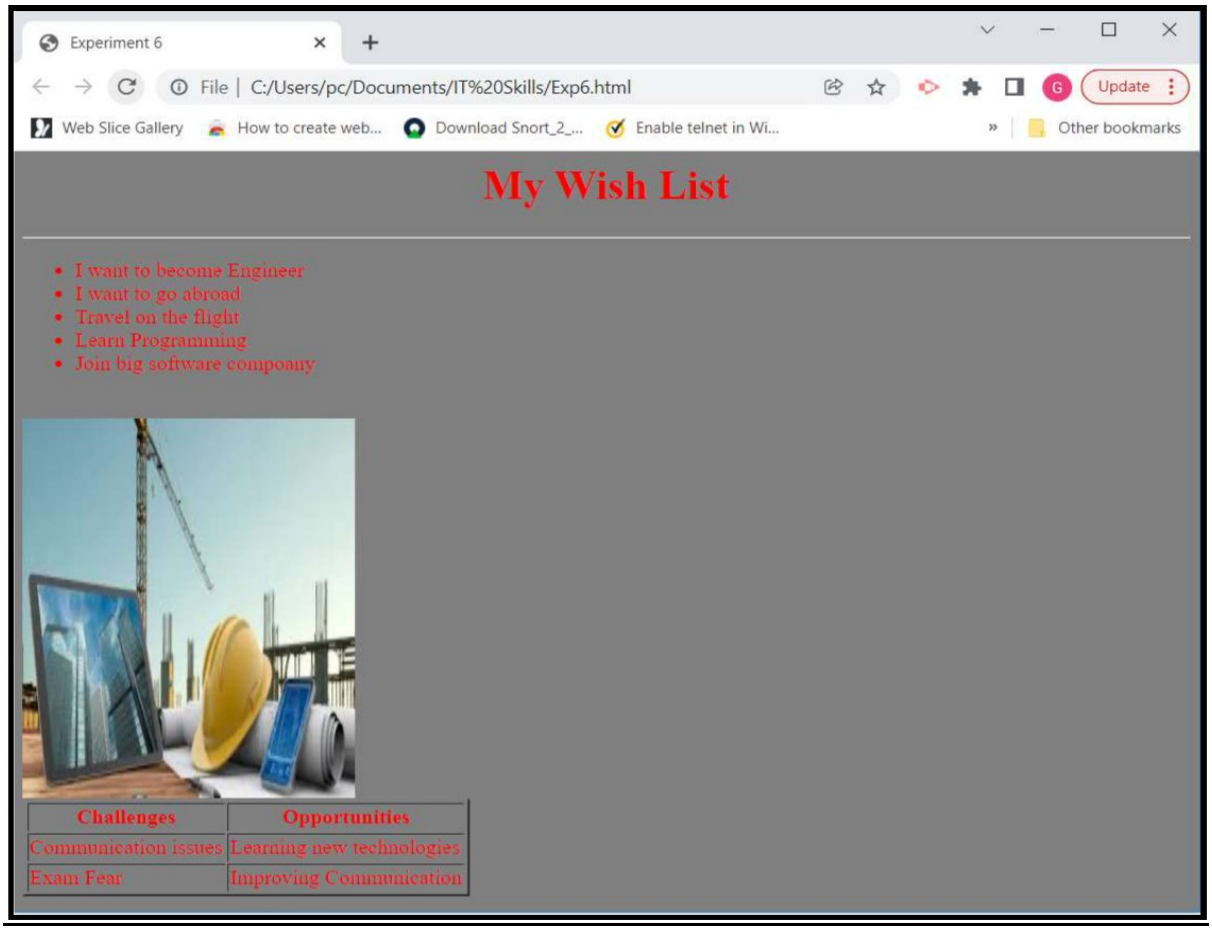


Experiment 4: Design and create webpage for your wish list. Also list challenges and opportunities.

Exp4.html

```
<html>
    <head>
        <title>Experiment 4</title>
    </head>
    <body bgcolor='grey' text='red'>
        <center><h1>My Wish List</h1></center>
        <hr>
        <ul>
          <li>I want to become Engineer</li>
          <li>I want to go abroad</li>
          <li>Travel on the flight</li>
          <li>Learn Programming</li>
          <li>Join big software compoany</li>
        </ul>
        <br>
        <img src="a.jpg" height=300 width=250></img>
        <br>
        <table border=2>
          <tr>
            <th>Challenges</th>
            <th>Opportunities</th>
          </tr>
          <tr>
            <td>Communication issues</td>
            <td>Learning new technologies</td>
          </tr>
          <tr>
            <td>Exam Fear</td>
            <td>Improving Communication</td>
          </tr>
        </table>
    </body>
</html>
```

Output:

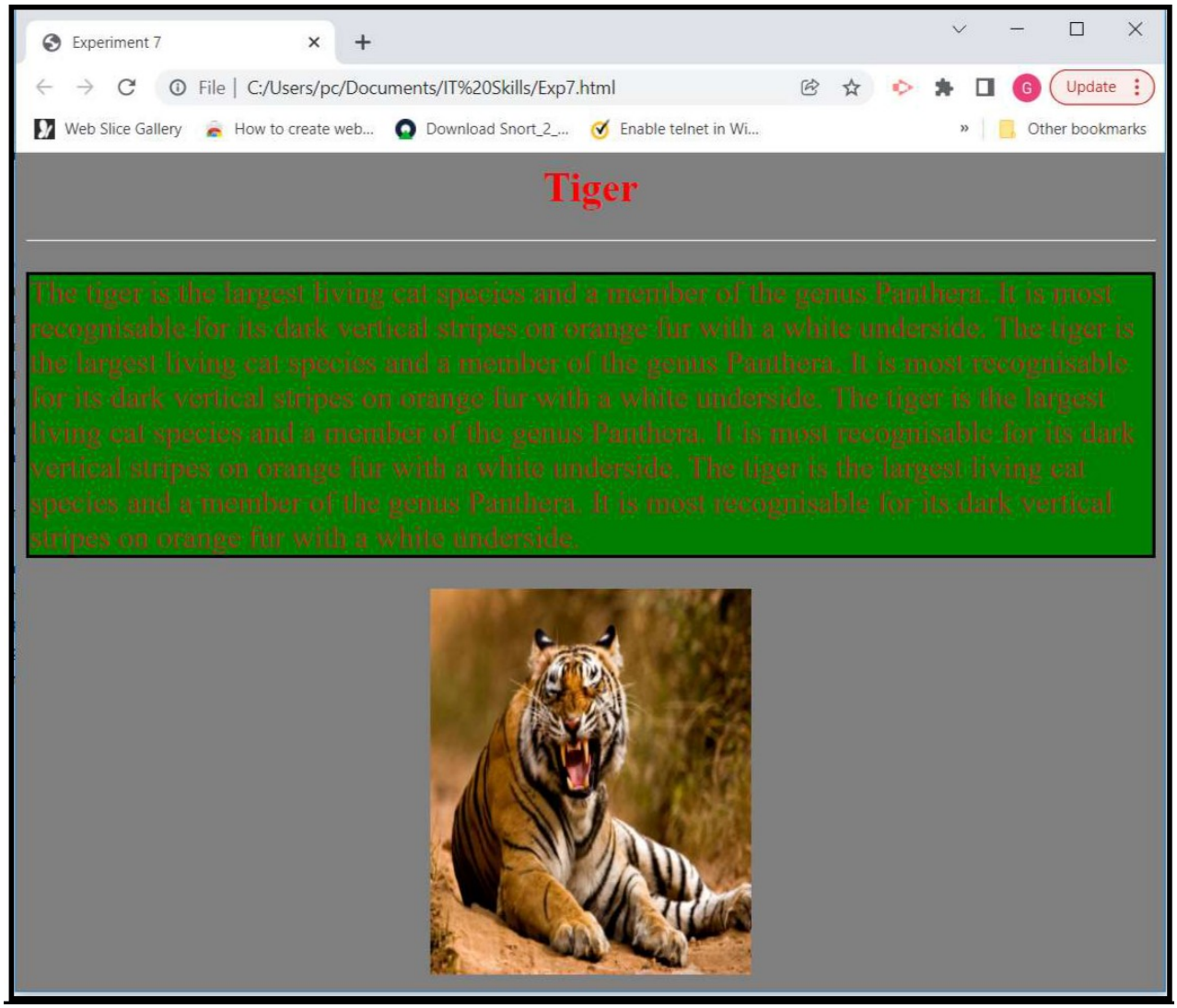

Experiment 6
File | C:/Users/pc/Documents/IT%20Skills/Exp6.html
Update
Web Slice Gallery
How to create web...
Download Snort_2_...
Enable telnet in Wi...
Other bookmarks
My Wish List
I want to become Engineer
I want to go abroad
Travel on the flight
Learn Programming
Join big software compoany
Challenges
Opportunities
Communication issues
Learning new technologies
Exam Fear
Improving Communication

Experiment 5: Design and create webpage using HTML and CSS about an awesome animal.

Exp5.html

```
<html>
<head>
 <title>Experiment 5</title>
 <style>
  h1{
   color:red;
   }
   p{
   border-style:solid;
   border-color:black;
   background-color: green;
   color:brown;
   font-size:24;
   }
   img{
   height:300;
   width: 250;
   }
 </style>
</head>
<body bgcolor='grey' text='red'>
 <center><h1>Tiger</h1></center>
 <hr>
 <p>
 The tiger is the largest living cat species and a member of the genus Panthera. It is
    most recognisable for its dark vertical stripes on orange fur with a white underside.
    The tiger is the largest living cat species and a member of the genus Panthera. It is
    most recognisable for its dark vertical stripes on orange fur with a white underside.
    The tiger is the largest living cat species and a member of the genus Panthera. It is
    most recognisable for its dark vertical stripes on orange fur with a white underside.
    The tiger is the largest living cat species and a member of the genus Panthera. It is
    most recognisable for its dark vertical stripes on orange fur with a white underside.
 </p>
 <center><img src="tiger.jpg"></img></center>
</body>
</html>
```

Output:


Experiment 7
File | C:/Users/pc/Documents/IT%20Skills/Exp7.html
Update
Web Slice Gallery
How to create web...
Download Snort_2_...
Enable telnet in Wi...
Other bookmarks
Tiger
The tiger is the largest living cat species and a member of the genus Panthera. It is most recognisable for its dark vertical stripes on orange fur with a white underside. The tiger is the largest living cat species and a member of the genus Panthera. It is most recognisable for its dark vertical stripes on orange fur with a white underside. The tiger is the largest living cat species and a member of the genus Panthera. It is most recognisable for its dark vertical stripes on orange fur with a white underside. The tiger is the largest living cat species and a member of the genus Panthera. It is most recognisable for its dark vertical stripes on orange fur with a white underside.

Experiment 6: Design and create web page for a travel book with more than 3 pages.

header.html

```
<html>
   <body bgcolor='sky blue' color='red'>
     <center><b><font size=8>TRAVEL
   BOOK</font></b></center> </body>
</html>
```

menu.html

```
<html>
   <body bgcolor='grey' color='red'>
        <font size=5>
        <br>
        <br>
        <a href="Jog.html" target="dis">Jog Falls</a>
        <br><br>
        <a href="Unch.html" target="dis">Unchalli
        Falls</a> </font>
   </body>
</html>
```

Jog.html

```
<html>
<body bgcolor='light green' color='blue'>
<center><h1>Jog Falls</h1></center>
 <hr>
 <font size=5>
 <p>
 Jog Falls is a waterfall on the Sharavati river located in the Western Ghats near
    Sagar Taluk of Shivamogga District, Karnataka, India. It is the second highest
    plunge waterfall in India. Jog Falls is a waterfall on the Sharavati river located in
    the Western Ghats near Sagar Taluk of Shivamogga District, Karnataka, India. It
    is the second highest plunge waterfall in India. Jog Falls is a waterfall on the
    Sharavati river located in the Western Ghats near Sagar Taluk of Shivamogga
    District, Karnataka, India. It is the second highest plunge waterfall in India.
 </p>
 </font>
 <center><img src="jog.jpg" height=200
width=250></img></center> </body>
</html>
```

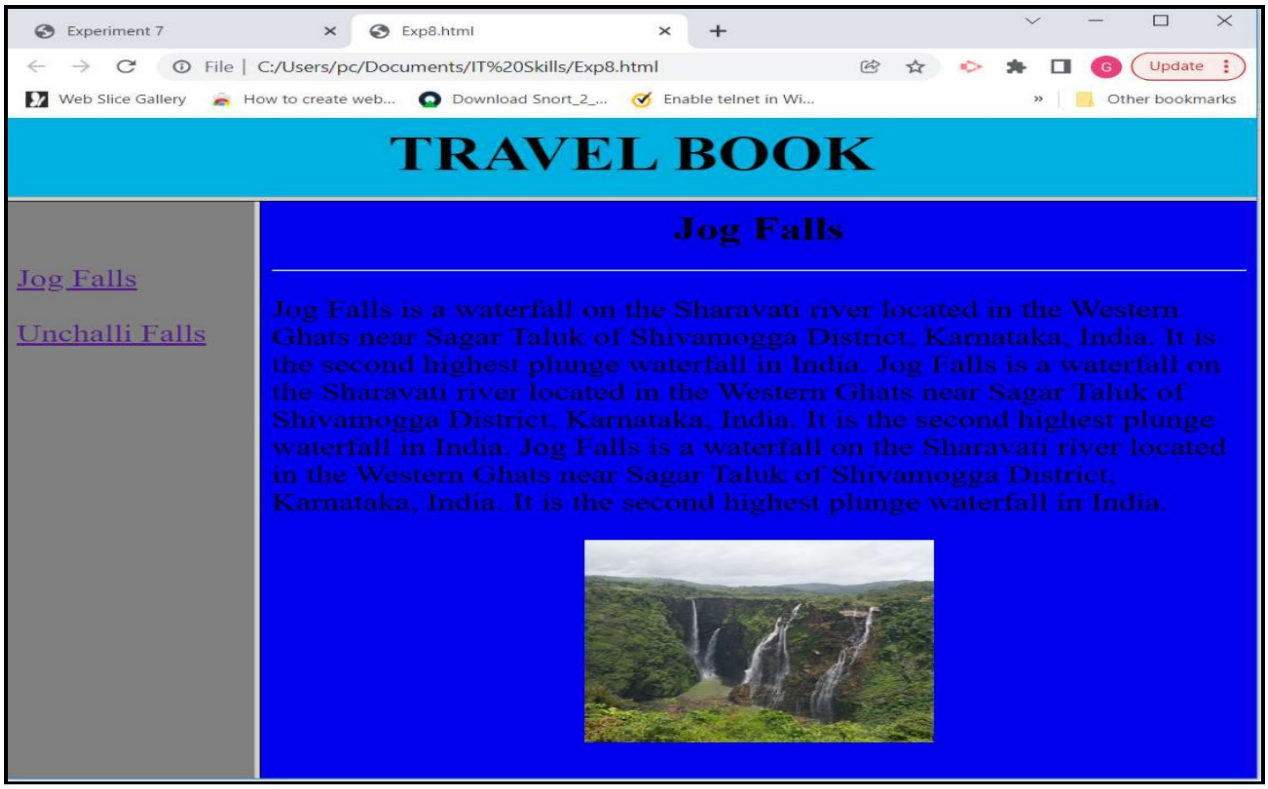
Unch.html

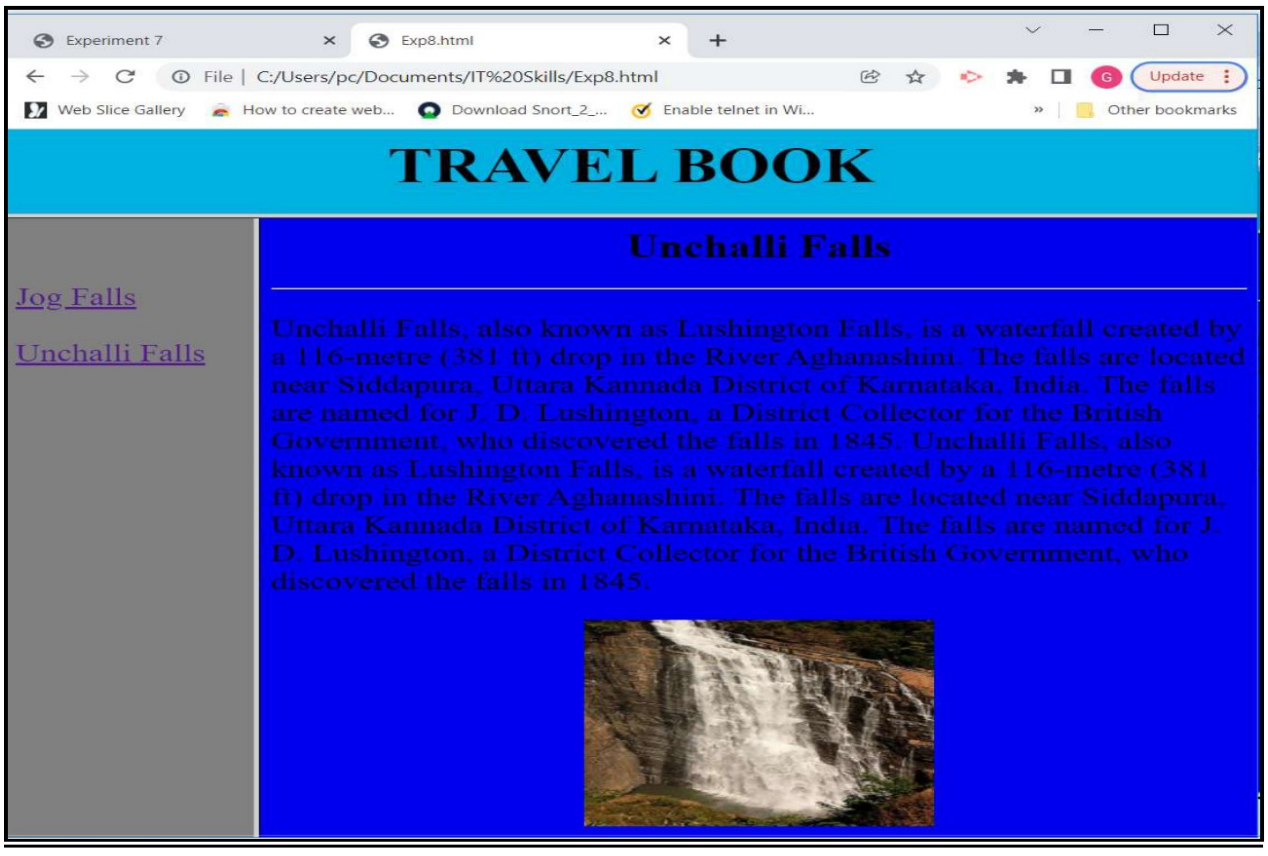
```
<html>
<body bgcolor='light green' color='blue'>
<center><h1>Unchalli Falls</h1></center>
 <hr>
 <font size=5>
 <p>
 Unchalli Falls, also known as Lushington Falls, is a waterfall created by a 116-metre (381 ft) drop in the River Aghanashini. The falls are located near Siddapura, Uttara Kannada District of Karnataka, India. The falls are named for J. D. Lushington, a District Collector for the British Government, who discovered the falls in 1845. Unchalli Falls, also known as Lushington Falls, is a waterfall created by a 116-metre (381 ft) drop in the River Aghanashini. The falls are located near Siddapura, Uttara Kannada District of Karnataka, India. The falls are named for J. D. Lushington, a District Collector for the British Government, who discovered the falls in 1845. </p>
 </font>
 <center><img src="unc.jpg" height=200
width=250></img></center> </body>
</html>
```

Exp6.html

```
<html>
<frameset rows="12%,*">
 <frame src="header.html"></frame>
 <frameset cols="20%,*">
   <frame src="menu.html"></frame>
    <frame src="Jog.html" name="dis"></frame>
 </frameset>
</frameset>
</html>
```

Output:


Experiment 7
Exp8.html
File | C:/Users/pc/Documents/IT%20Skills/Exp8.html
Update
Web Slice Gallery
How to create web...
Download Snort_2_...
Enable telnet in Wi...
Other bookmarks
TRAVEL BOOK
Jog Falls
Unchalli Falls
Jog Falls
Jog Falls is a waterfall on the Sharavati river located in the Western Ghats near Sagar Taluk of Shivamogga District, Karnataka, India. It is the second highest plunge waterfall in India. Jog Falls is a waterfall on the Sharavati river located in the Western Ghats near Sagar Taluk of Shivamogga District, Karnataka, India. It is the second highest plunge waterfall in India. Jog Falls is a waterfall on the Sharavati river located in the Western Ghats near Sagar Taluk of Shivamogga District, Karnataka, India. It is the second highest plunge waterfall in India.


Experiment 7
Exp8.html
File | C:/Users/pc/Documents/IT%20Skills/Exp8.html
Update
Web Slice Gallery
How to create web...
Download Snort_2_...
Enable telnet in Wi...
Other bookmarks
TRAVEL BOOK
Jog Falls
Unchalli Falls
Unchalli Falls
Unchalli Falls, also known as Lushington Falls, is a waterfall created by a 116-metre (381 ft) drop in the River Aghanashini. The falls are located near Siddapura, Uttara Kannada District of Karnataka, India. The falls are named for J. D. Lushington, a District Collector for the British Government, who discovered the falls in 1845. Unchalli Falls, also known as Lushington Falls, is a waterfall created by a 116-metre (381 ft) drop in the River Aghanashini. The falls are located near Siddapura, Uttara Kannada District of Karnataka, India. The falls are named for J. D. Lushington, a District Collector for the British Government, who discovered the falls in 1845.

Experiment 7: Design and create a personal webpage with dashboard.

top.html

```
<html>
<body bgcolor='sky blue' color='red'>
 <b><font size=8>Hi Ajay</font></b>
</body>
</html>
```

left.html

```
<html>
<body bgcolor='grey' color='red'>
 <center><img src="photo.jpg" height=140 width=150></img></center>
 <font size=5>
 <br><br>
 <b>
 <pre>
 Occupation:
  Student

 Hobbies:
  Playing Cricket,
   Music etc.
   </pre>
  </b>
 </font>
</body>
</html>
```

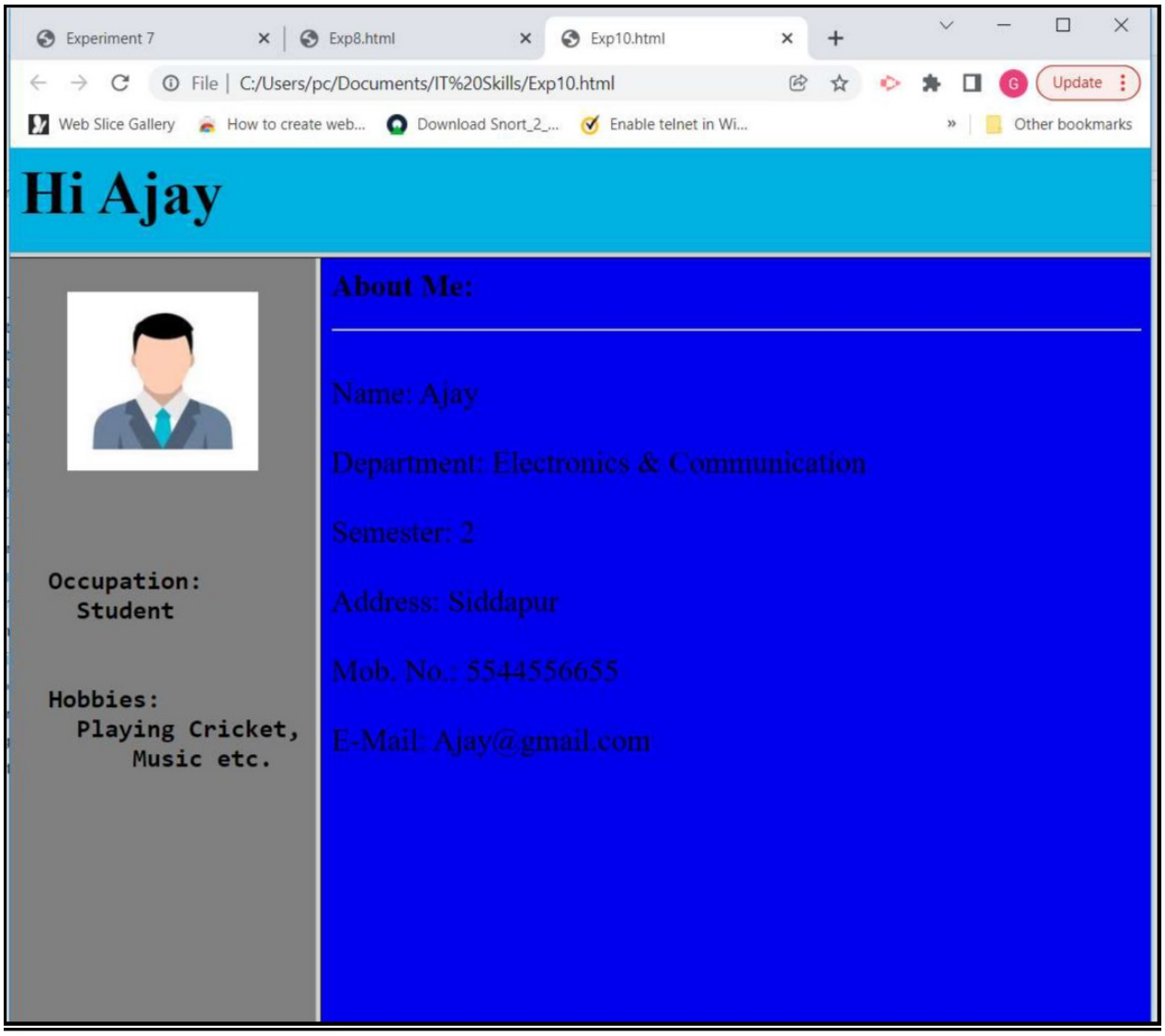
about.html

```
<html>
<body bgcolor='light green' color='blue'>
 <h2>About Me:</h2><hr>
 <font size=5><br>
 Name:  Ajay <br><br>
 Department:  Electronics & Communication <br><br>
 Semester:  2 <br><br>
 Address:  Siddapur <br><br>
 Mob. No.:  5544556655 <br><br>
 E-Mail:  Ajay@gmail.com <br>
 </font>
</body>
</html>
```

Exp 7.html

```
<html>
<frameset rows="12%,*">
 <frame src="top.html"></frame>
 <frameset cols="16%,*">
  <frame src="left.html"></frame>
   <frame src="about.html"></frame>
 </frameset>
</frameset>
</html>
```

Output:

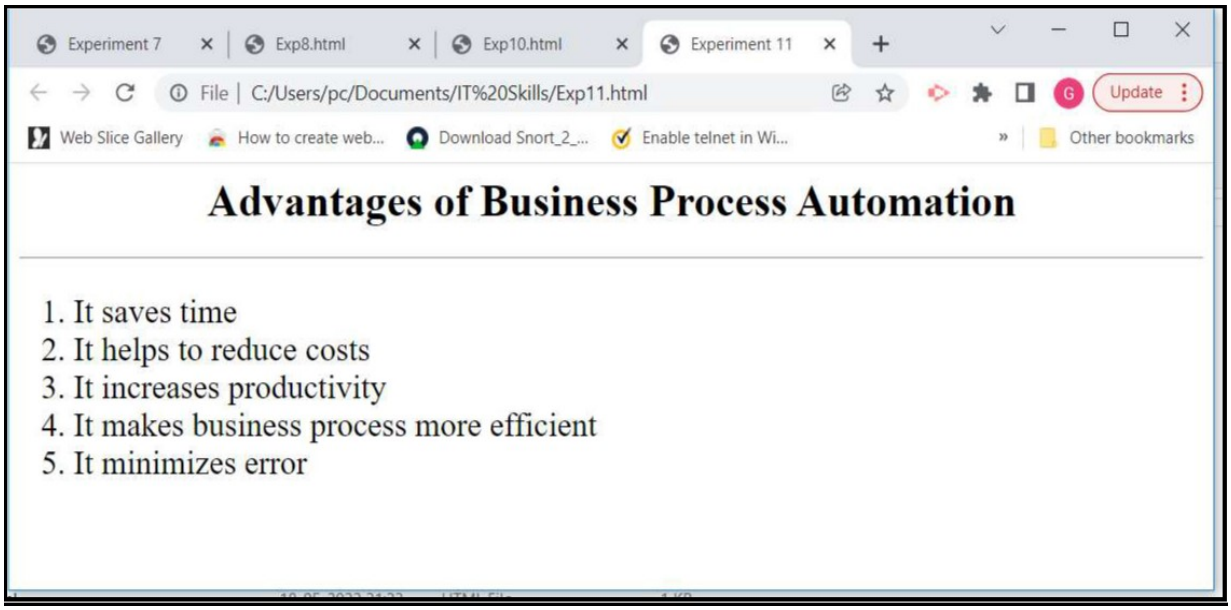


Experiment 8: Design and create web page about advantages of business process automation.

Exp8.html

```
<html>
<head>
 <title>Experiment 8</title>
 </style>
</head>
<body>
 <center><h1>Advantages of Business Process
 Automation</h1></center> <hr>
 <font size=5>
 <ol>
  <li>It saves time</li>
   <li>It helps to reduce costs</li>
   <li>It increases productivity</li>
   <li>It makes business process more efficient</li>
   <li>It minimizes error</li>
 </ol>
 </font>
</body>
</html>
```

Output:

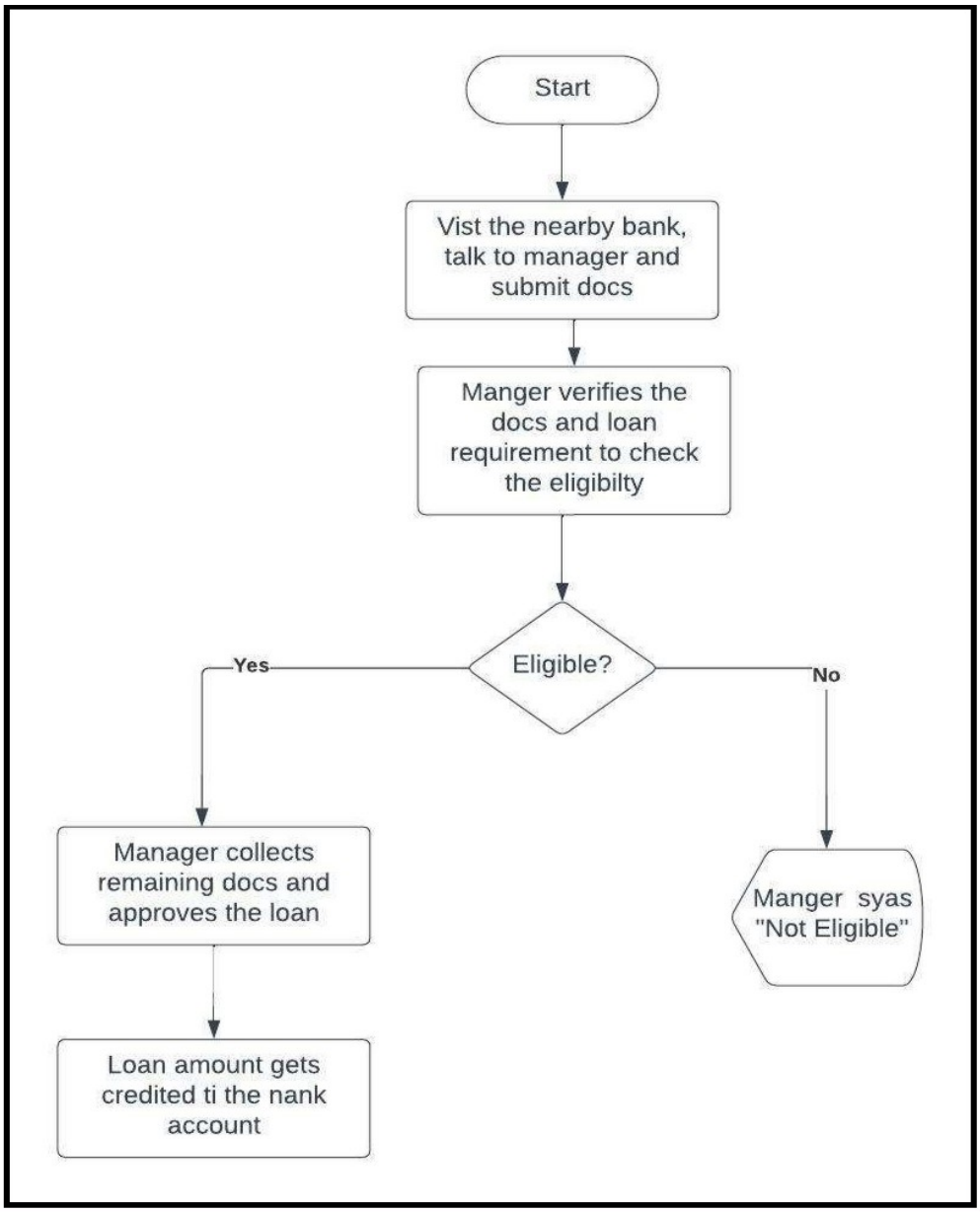


Experiment 9: Create a workflow for education loan approval in bank.

Loan application Procedure:

1. Students parents/guardian visit the bank with supporting documents for education loan.
2. Manager verifies the documents, application and checks the eligibility.
3. If the applicant is eligible for loan, manager collects all remaining documents, approves the loan, and loan amount gets credited to the applicant's account.
4. If the applicant is not eligible for loan, then manager rejects applicant's loan proposal.

Tool Used to draw Workflow: Diagram Designer



Experiment 10: Demonstrate Enterprise resource planning (ERP).

Enterprise resource planning (ERP) is a process used by companies to manage and integrate the important parts of their businesses.

Features

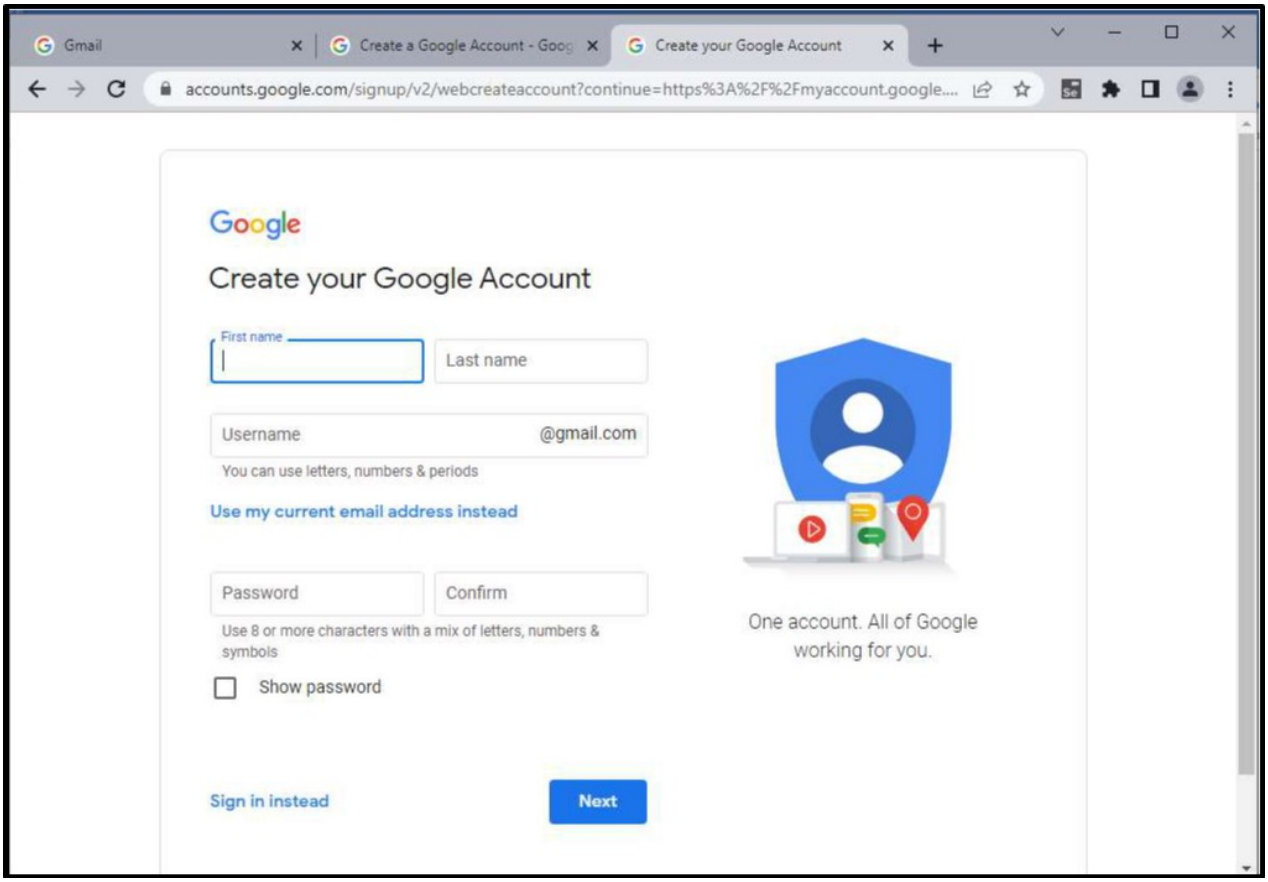
1. **ERP software can integrate all of the processes needed to run a company.**
2. **ERP solutions have evolved over the years, and many are now typically web-based applications that users can access remotely.**
3. **Some benefits of ERP include the free flow of communication between business areas, a single source of information, and accurate, real-time data reporting.**
4. **An ERP system can be ineffective if a company doesn't implement it carefully.**

Experiment 11: Create user account and demonstrate use of Google drive, Google docs.

CREATE AN GMAIL ACCOUNT

1. Go to the **Google Account** sign in page:

   https://www.google.com/account/about/?hl=en
2. Click Create account.
3. Enter your name.
4. In the "Username" field, enter a username.
5. Enter and confirm your password.
6. Click Next.
7. Optional: Add and verify a phone number for your account.
8. Click Next.

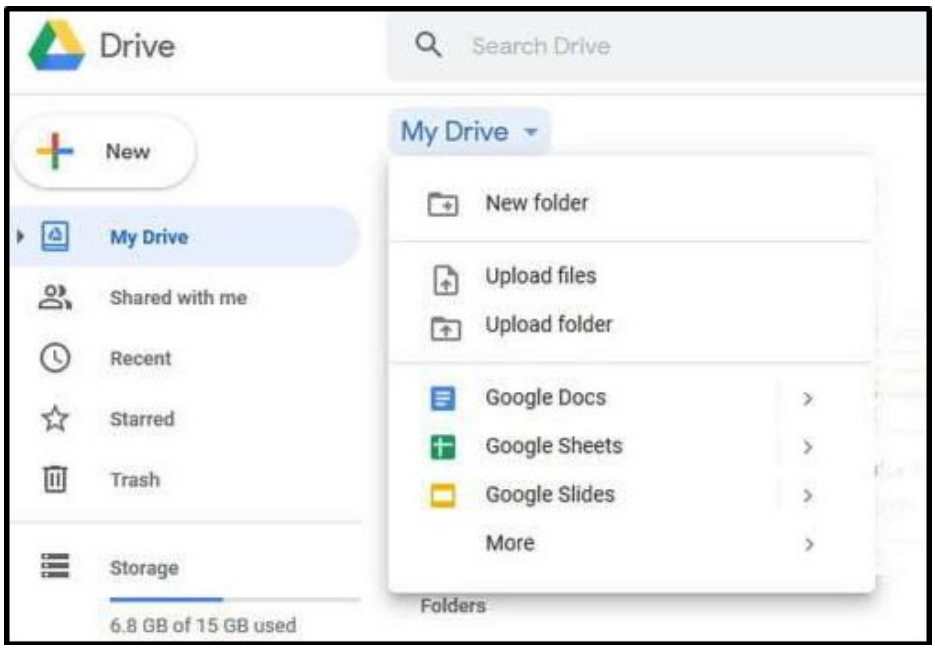


USE OF GOOGLE DRIVE

1. It can be used to create and store our files securely.
2. We can open or edit files stored on drive from any device.
3. We can share the files stored on drive with others with different access protections.
4. We get 15GB of free space in our drive.

HOW TO USE "GOOGLE DRIVE"

1. Go to drive.google.com.
2. Upload or create files: You can upload files from your computer or create files in Google Drive.
3. Share and organize files: You can share files or folders, so other people can view, edit, or comment on them.

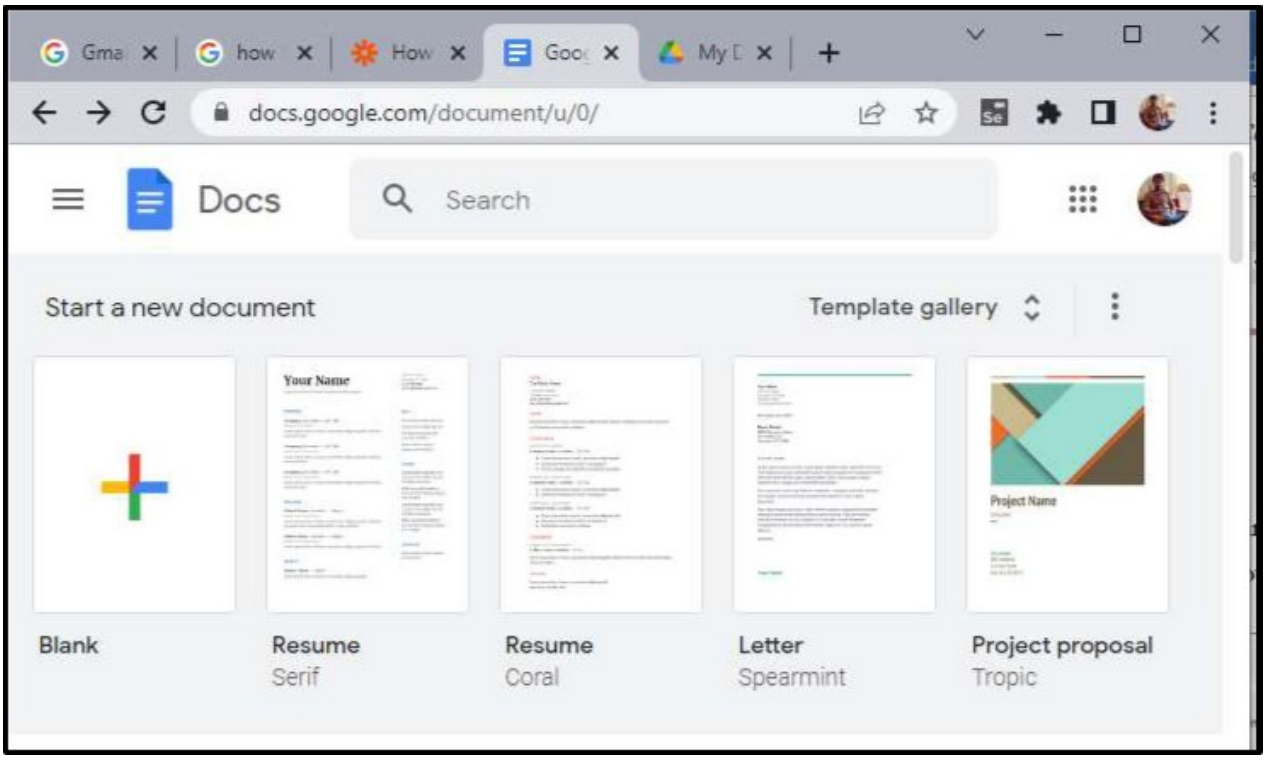


USE OF GOOGLE DOCS

1. With Google Docs, you can create and edit text documents right in your web browser—no special software is required.
2. Multiple people can work at the same time, you can see people's changes as they make them, and every change is saved automatically.
3. You can use Google Docs on your computer as well as Android and iPhone & iPad.

HOW TO USE "GOOGLE DOCS"

1. **Create a Document: Go to [docs.google.com.](docs.google.com)**
2. **Edit and format: open a document in Google Docs, start editing and formatting.**
3. **Share & work with others: You can share files and folders with other people.**



Experiment 12: Demonstrate Internet of Things using with examples
Smart home
Smart city
Smart farming

Smart Home

A smart home is a residence that uses internet-connected devices to enable the remote monitoring and management of appliances and systems, such as lighting, refrigerator etc.

Devices in a smart home are interconnected through the internet, allowing the user to control functions such as security access to the home, temperature, lighting, and a home theater remotely.

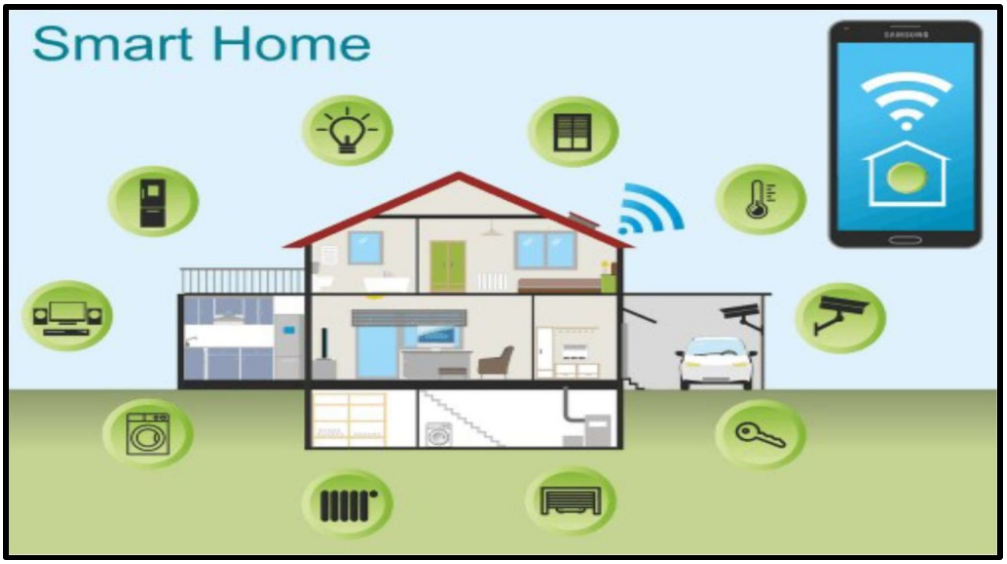
Examples of Smart Home systems and devices. Amazon Alexa

Google Assistant

Sony Smart TV

Perfect Bake pro

Amazon Echo etc.



Smart City

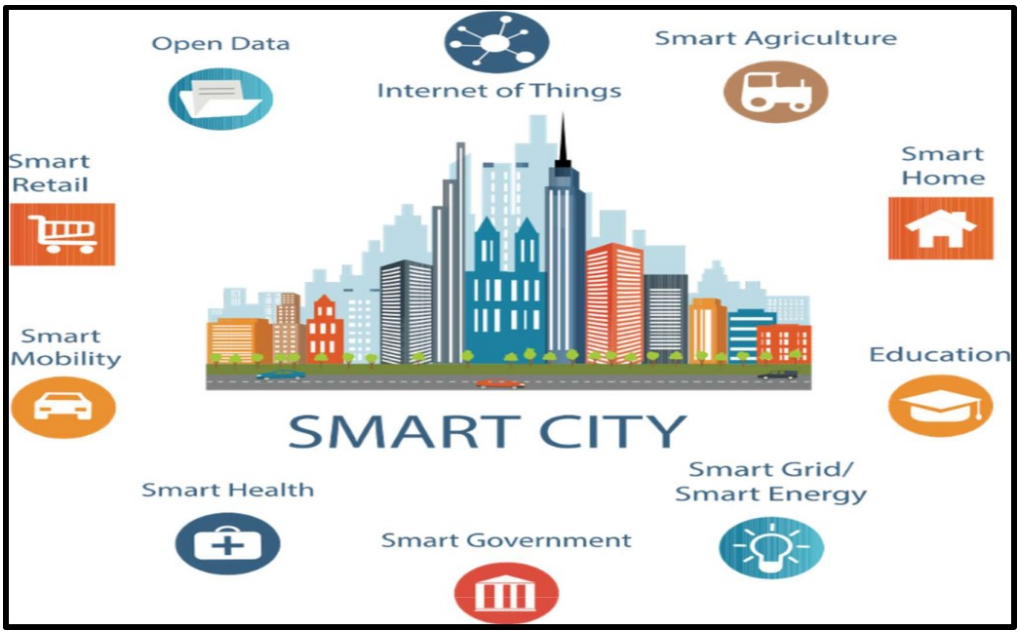
A "Smart city" is a city that uses technology to provide services and solve city problems.

A smart city does things like improve transportation and accessibility, improve social services, promote sustainability, and give its citizens a voice.

Examples of Smart Cities in India

New Delhi

Mumbai



Smart Farming

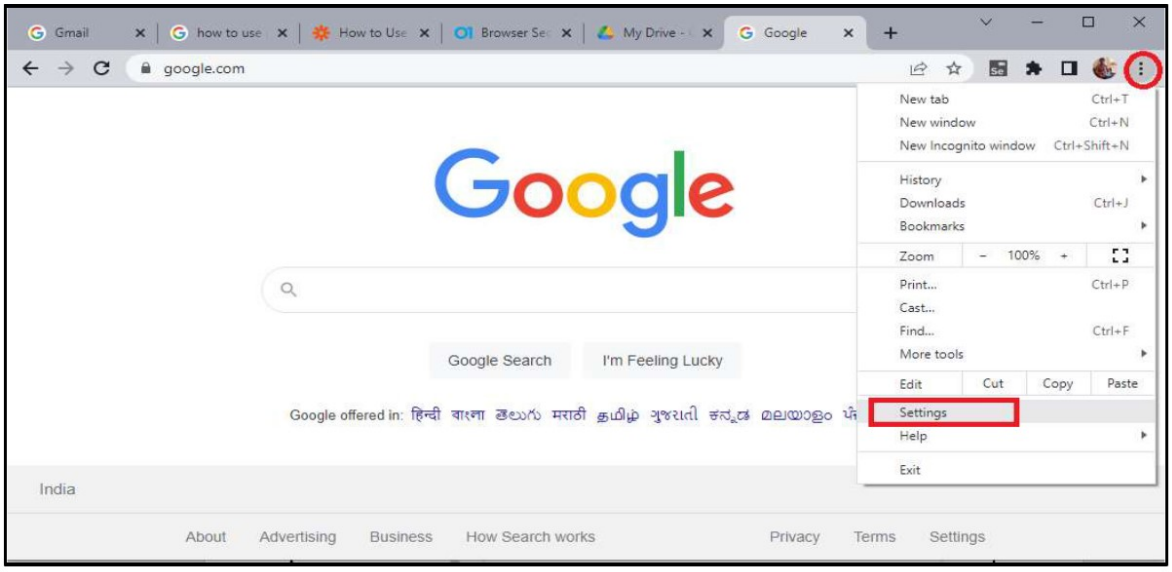
"Smart Farming" is an emerging concept that refers to managing farms using modern Information and Communication Technologies to increase the quantity and quality of products while reducing the human labor required.

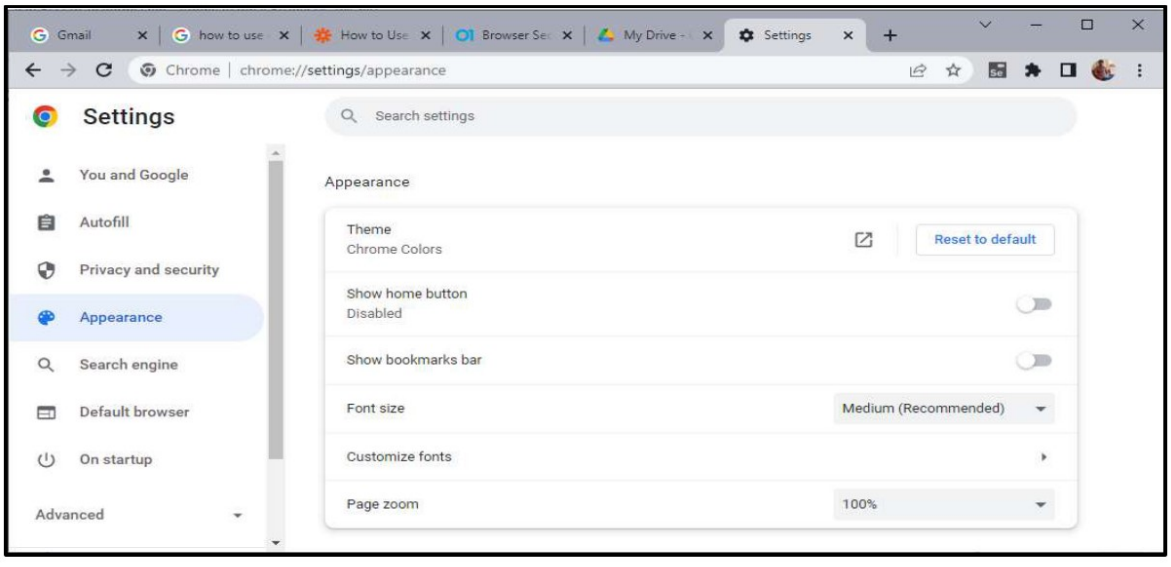
The goal of "Smart Farming" is to reduce the heavy workload of the farm workers, hence improving their quality of life.

Experiment 13: Demonstration and hands on browser settings.

"GOOGLE CHROME" BROWSER SETTINGS

1. Open Google chrome web browser.
2. Click Menu bar in the top right corner of the screen.
3. Select settings from the dropdown menu.
4. Here different settings options of browser appears (Ex. Appearance, Privacy & Security, Search Engine etc..)
5. Click on respective options to make necessary changes.
6. Ex. Click on Appearance settings.
7. In this setting, we can change "Browser Theme", "Font size", "Home Buttons", "Page zoom" etc..
8. Similarly click on other options to make necessary changes.





Experiment 14: Demonstration and hands on privacy settings and password policy.

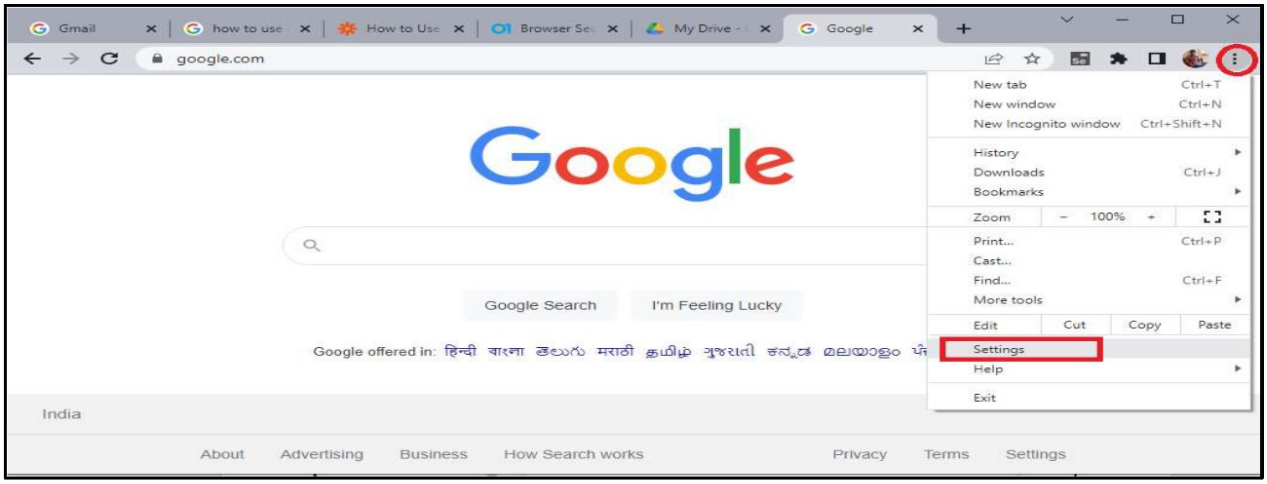
"GOOGLE CHROME" PRIVACY SETTINGS

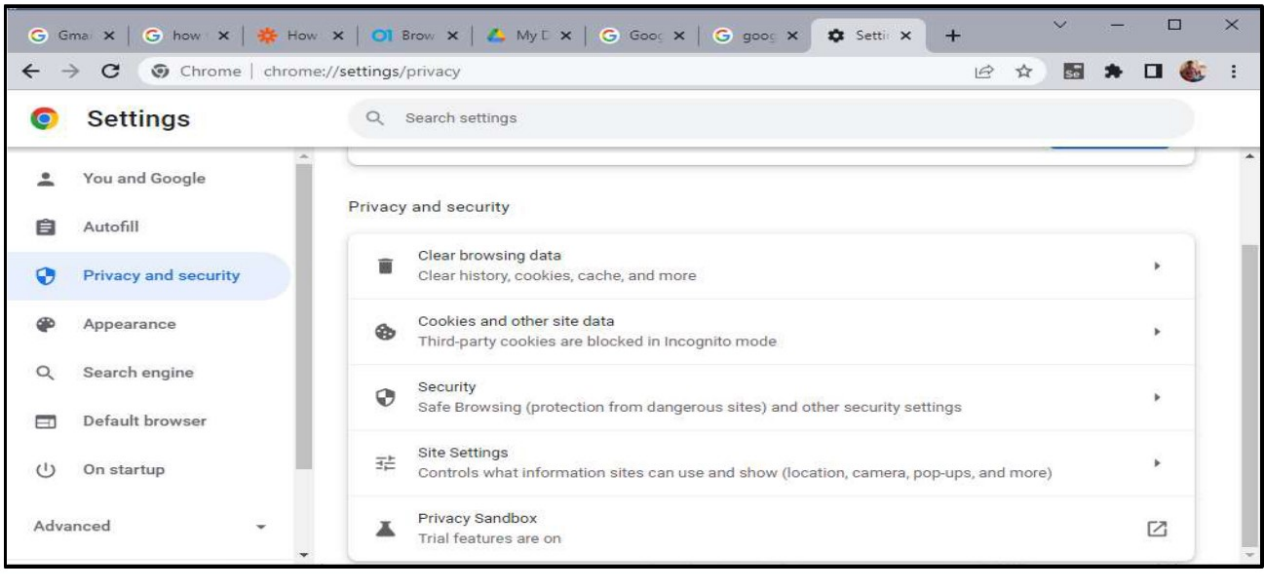
1. Open Google chrome web browser.
2. Click Menu bar in the top right corner of the screen.
3. Select settings from the dropdown menu.
4. Here different settings options of browser appears (Ex. Appearance, Privacy & Security, Search Engine etc..)
5. Click on Privacy and security.
6. Choose what settings to turn off.

To control how Chrome handles content and permissions for a site, click Site settings.

To delete information from your browsing activity, like your history, cookies, or saved passwords, click Clear browsing data.

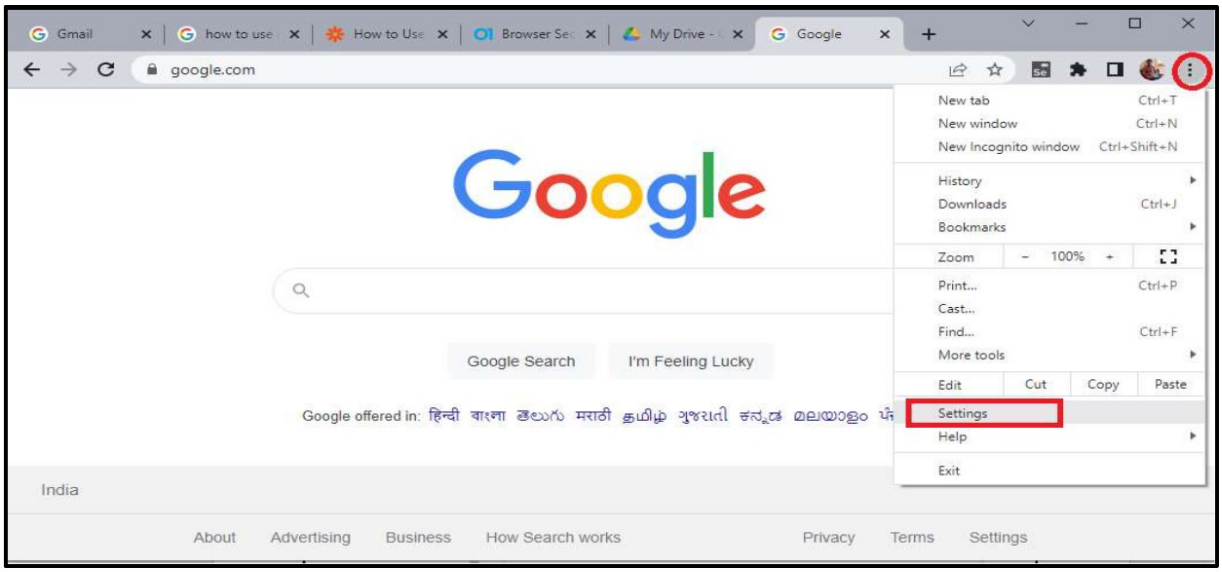
To manage safe browsing and protection, click Security.

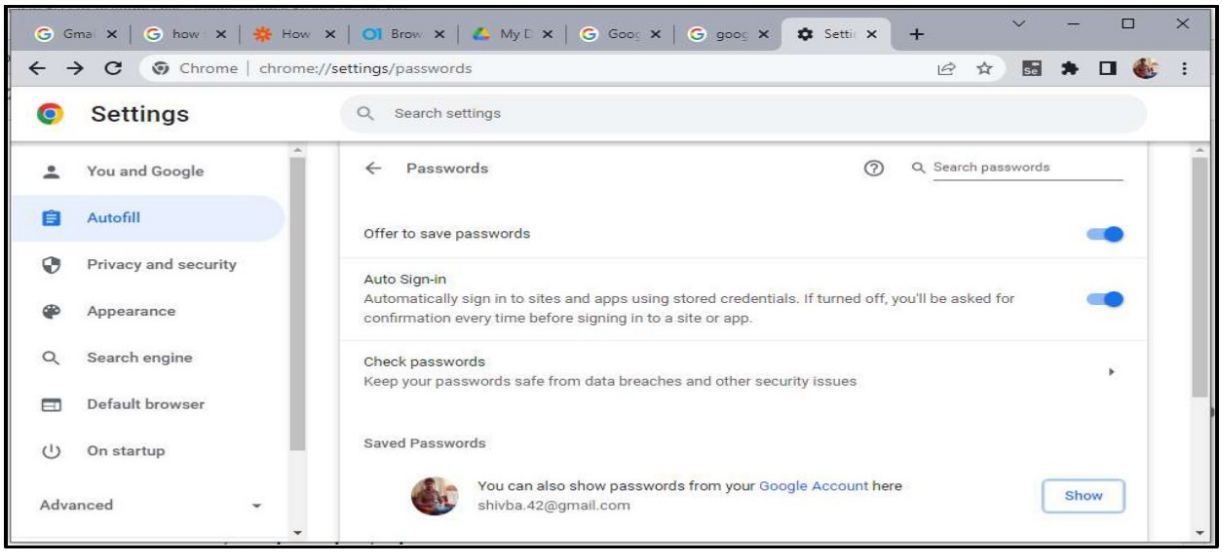




"GOOGLE CHROME" PASSWORD SETTINGS

1. Open Google chrome web browser.
2. Click Menu bar in the top right corner of the screen.
3. Select settings from the dropdown menu.
4. Here different settings options of browser appears (Ex. Appearance, Privacy & Security, Search Engine etc..)
5. Click on "Autofill".
6. Under "Autofill" choose what settings you want to Turn ON and OFF.
7. By enabling "Offer to save passwords" browser will ask to save your password before login and vice versa.
8. By enabling "Auto Sign-in" browser will automatically sign in to websites using stored credentials.
9. On clicking "Check passwords" will keep your passwords safe from data breaches and other security issues.
10. We can "View and manage saved passwords of our Google Account".





Experiment 15: Demonstration of common security threats.

Phishing

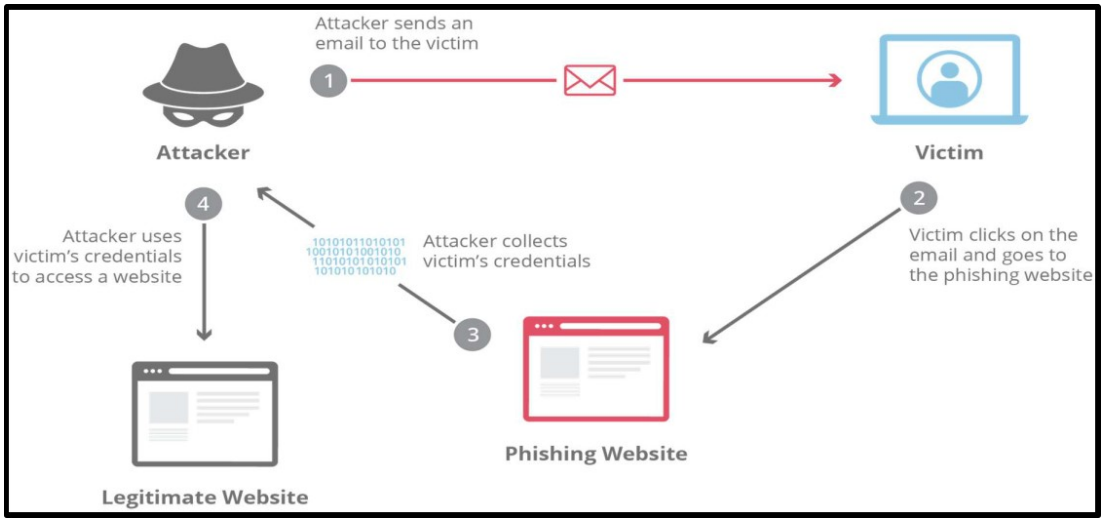
Phishing is an online method of criminals trying to steal your personal information like login credentials, credits and numbers using deceptive e-mails, SMS or voice calls.

Phishing messages manipulate a user, causing them to perform actions like installing a malicious file, clicking a malicious link, or giving sensitive information such as OTP, passwords etc.

Common "Phishing" Attacks

Email phishing

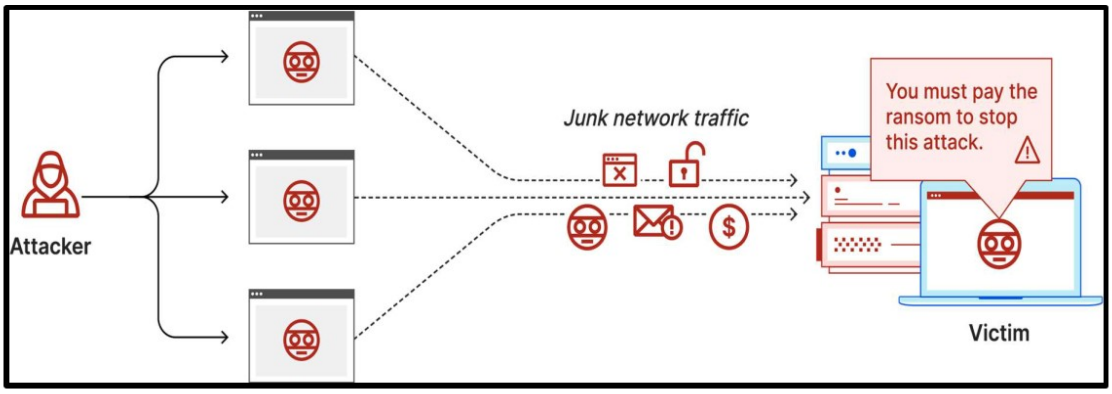
Spear Phishing etc.



DoS Attack

A denial-of-service (DoS) attack is a cyberattack on devices, information systems, or other network resources that prevents legitimate(Valid) users from accessing expected services and resources.

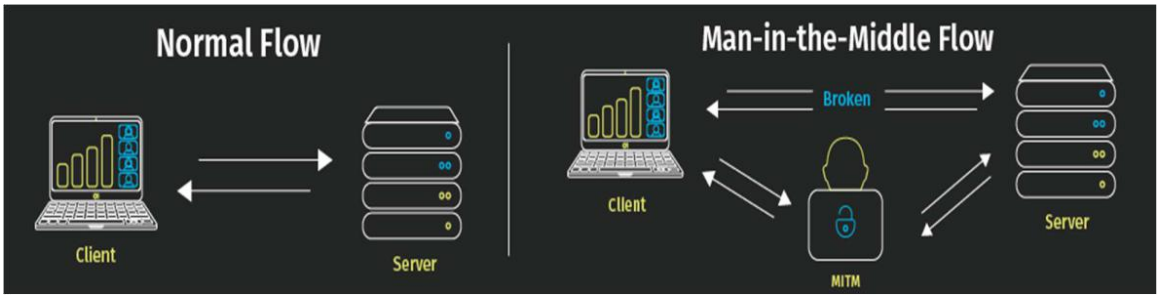
This is usually accomplished by flooding the targeted host or network with traffic until the target can't respond or crashes.



Man in the Middle Attack

A Man-in-the-Middle (MitM) attack is a type of cyberattack in which communications between two parties is intercepted, often to steal login credentials or personal information, spy on victims, or corrupt data.

Targets are typically the users of financial applications, e-commerce sites and other websites where logging in is required.



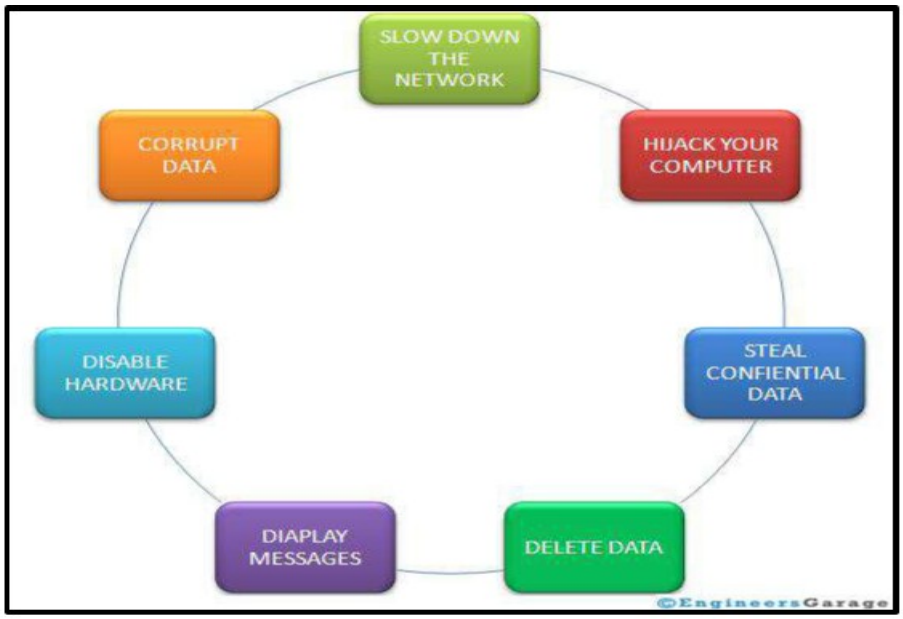
Spamming

Spam attacks are defined as an organized and unauthorized use of an app to send thousands of messages to their users.

These messages are sent by fake or hacked profiles, and often include unreal advertisements and links to which real users are asked to click on.

Virus

Virus can be defined as a computer program (piece of code) which can spread across computers and network by making copies of itself, thus infecting the computer and usually it makes it copies without user's knowledge.



DEMONSTRATION LINKS (YOUTUBE VIDEOS):

1. **Computer Security:** https://www.youtube.com/watch?v=d30n-YxOHo4
2. **Phishing attack:** https://www.youtube.com/watch?v=PR0c-gJ20kA
3. **DoS attack:** https://www.youtube.com/watch?v=PTJ6UZz1pPQ
4. **Man in the Middle attack:** https://www.youtube.com/watch?v=dEaDgOZY80Y
5. **Spamming attack:** https://www.youtube.com/watch?v=B47mwZAJXIs
6. **Virus attack:** https://www.youtube.com/watch?v=n8mbzU0X2nQ

Student Activity

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Acitivity #1 Prepare a report on ERPNext Tool. (Min 2 page)

Acitivity #2 Develop Website for your College.

Acitivity #3 Create a workflow for Diploma Admission Process.

Acitivity #4 Prepare a report on any 2 IoT Applications.

Acitivity #5

1. Prepare a report on any 2 different Phishing Attacks. (Min 2 Pages)
2. Prepare a report on any 5 Computer Viruses (Min 2 Pages)