Front end

BASIC REQUIREMENTS TO BUILD A WEBSITE

HTML

Must
Body

CSS

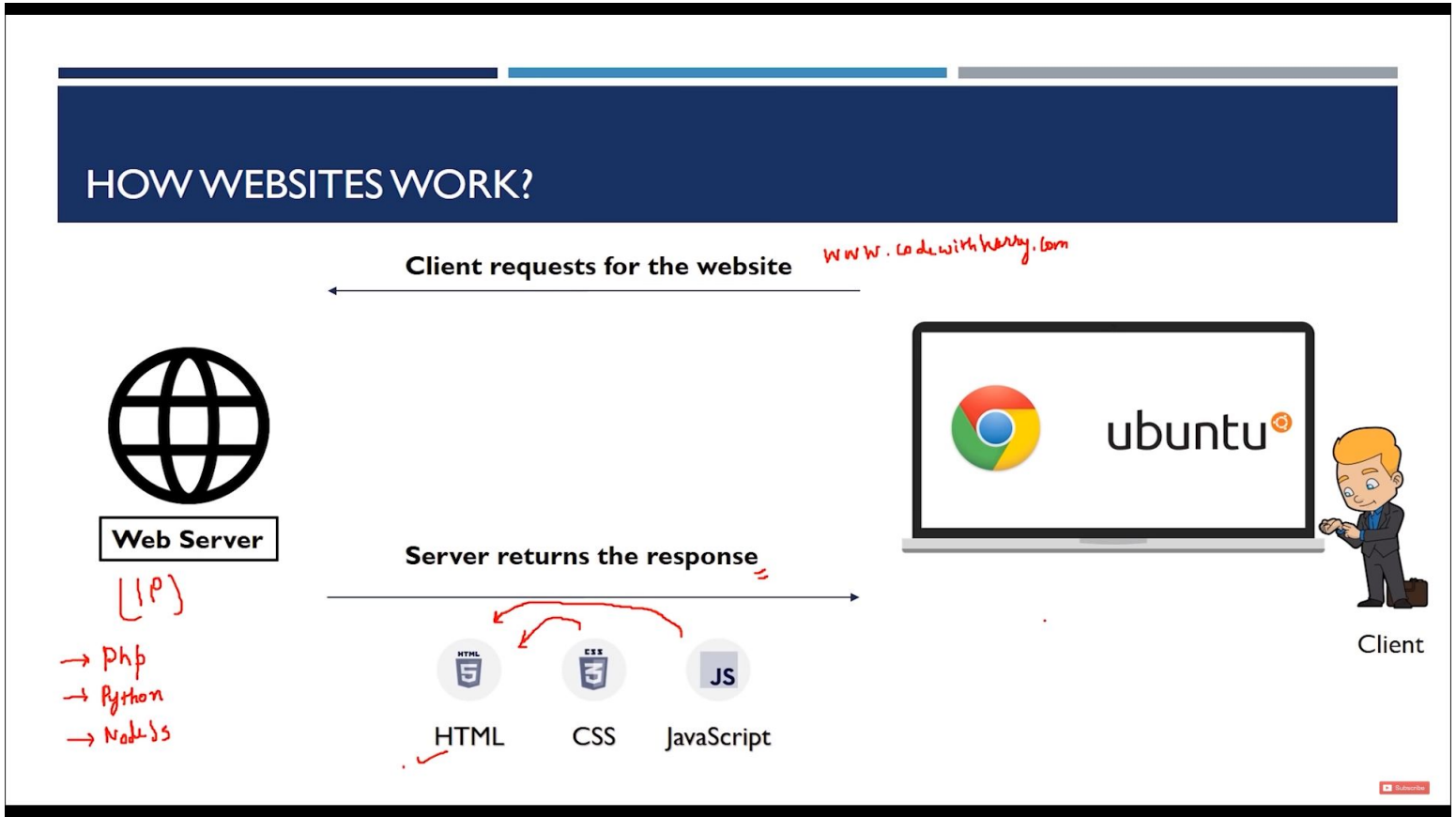
beauty

JAVASCRIPT

brain

LET US UNDERSTAND THIS WITH A FRIENDLY EXAMPLE

‘Css + javaScript’ wrapped and present in the ‘html’



Suppose we hit “www.facebook.com” on the browser

As soon as we hit the end point on the browser it will call the server and get the document of the “Html(css+js) in it” and browser starts reading the docs of frontend

ROLE OF HTML

- HTML stands for Hypertext Markup Language
- It is basically a standard markup language for giving a static skeleton to web application and websites.
- Its a well standardized system

Subscribe

ROLE OF CSS

- Cascading Style Sheets which is known as CSS is a style sheet language that used to handle the presentation of the web page containing HTML.
- It makes our websites beautiful and modern looking.

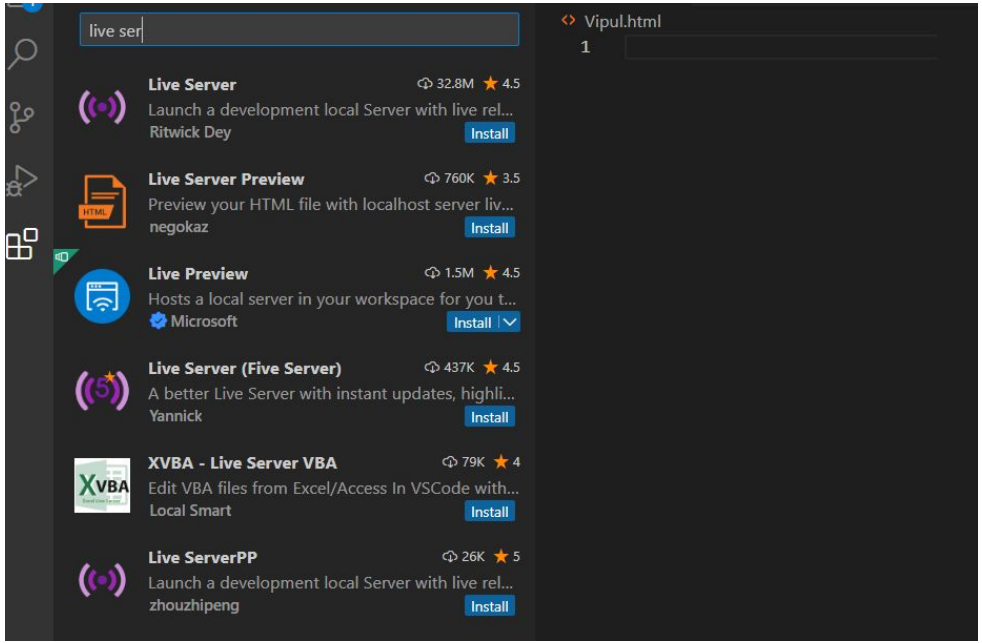
Subscribe

ROLE OF JAVASCRIPT

- JavaScript which is often known as JS, is a high-level dynamic interpreted programming language.
- It allows client-side scripting to create completely dynamic web applications and websites.

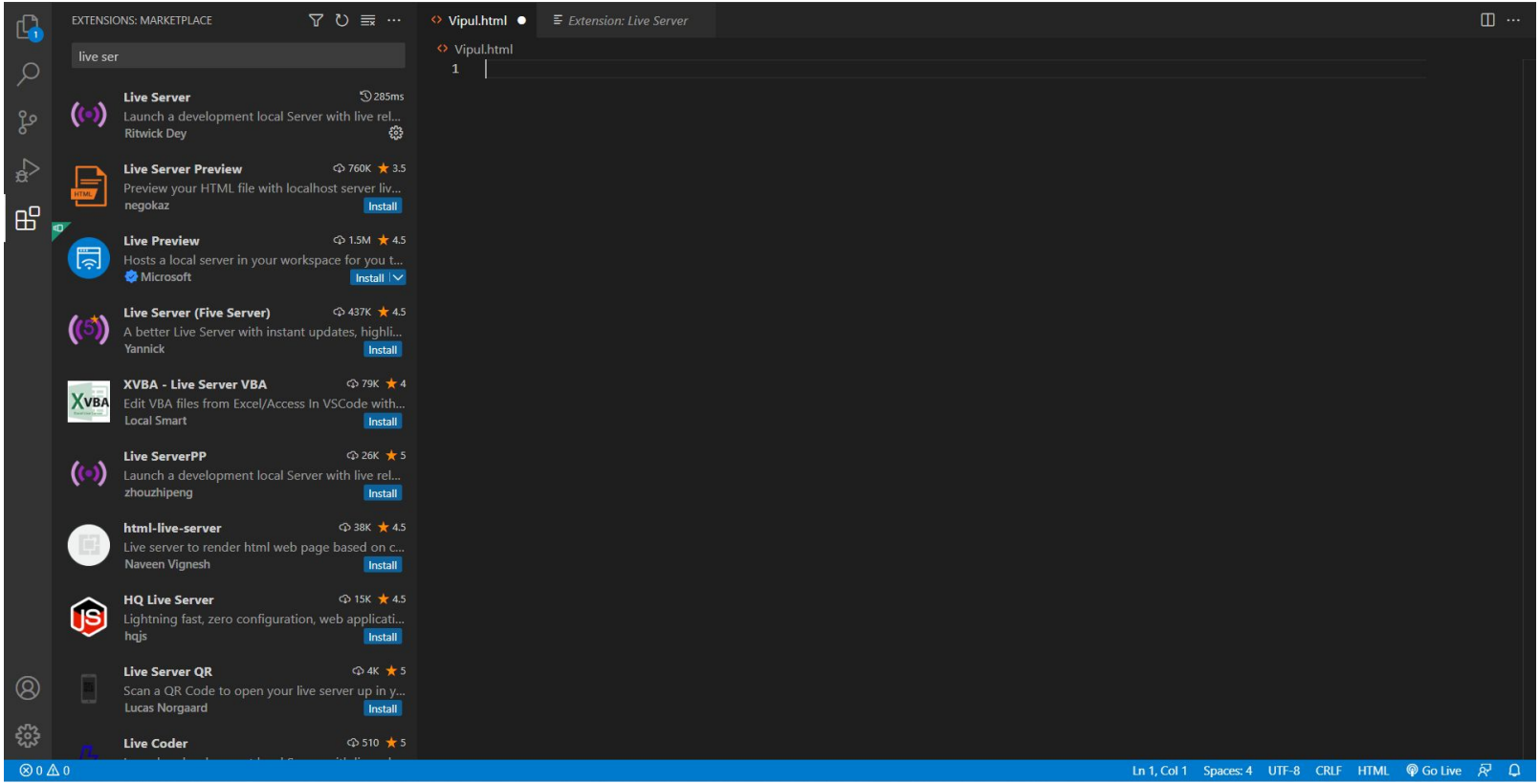
Subscribe

Now we will download the VS code and add “live server” extension to it



We will download the first one

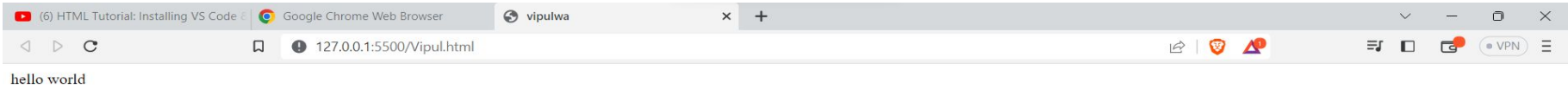
After adding “live server”, we can see the “Go Live” button in the bottom right corner



Suppose we write “!” it provides us a “Emmet Abbrivation”
Or we can say it will provide us the “boilerplate code”

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>vipulwa</title>
</head>
<body>
   hello world
</body>
</html>
!
```

Now we hit the “live server” on the vs code so it will open a page on our default browser



Let’s understand the head of the html

```
<!DOCTYPE html>
<!-- comments -->
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>vipul and vimarsh </title>
</head>
<body>
   hello world vimmuwec
</body>
</html>
```

What is the function of <meta> tag: it is mainly used in SEO(search engine optimization) : it means we help the google or bing search engine to show our website more fast to the user

Understanding more meta<> tags

```
<meta name="decription" content="this is description of my page">
```

The `meta` tag with the `name` attribute set to "description" is used to provide a brief summary or description of the webpage's content. This information is often used by search engines to display a snippet of text in search results.

```
<meta name="keywords" content="html,css,javascript">
```

The `meta` tag with the `name` attribute set to "keywords" is used to specify a list of relevant keywords or phrases related to the content of the webpage. This tag was widely used in the past, but search engines now mostly ignore it due to spam and keyword stuffing issues.

```
<meta name="robots" content="NOINDEX, NOFOLLOW">
```

The `meta` tag with the `name` attribute set to "robots" is used to instruct search engine crawlers on how to index and follow links on the webpage. In this example, the `NOINDEX` value tells crawlers not to include the page in their index, and the `NOFOLLOW` value tells them not to follow any links on the page.

It's worth noting that these tags are not visible to website visitors, but are instead included in the HTML code of the webpage.

But who are crawlers ?

Crawlers, also known as spiders or bots, are automated programs used by search engines to explore the web and index web pages. These programs visit web pages and follow links to discover new pages to index. They analyze the content and structure of each page they visit and store information about it in the search engine's database, which is later used to provide relevant search results to users.

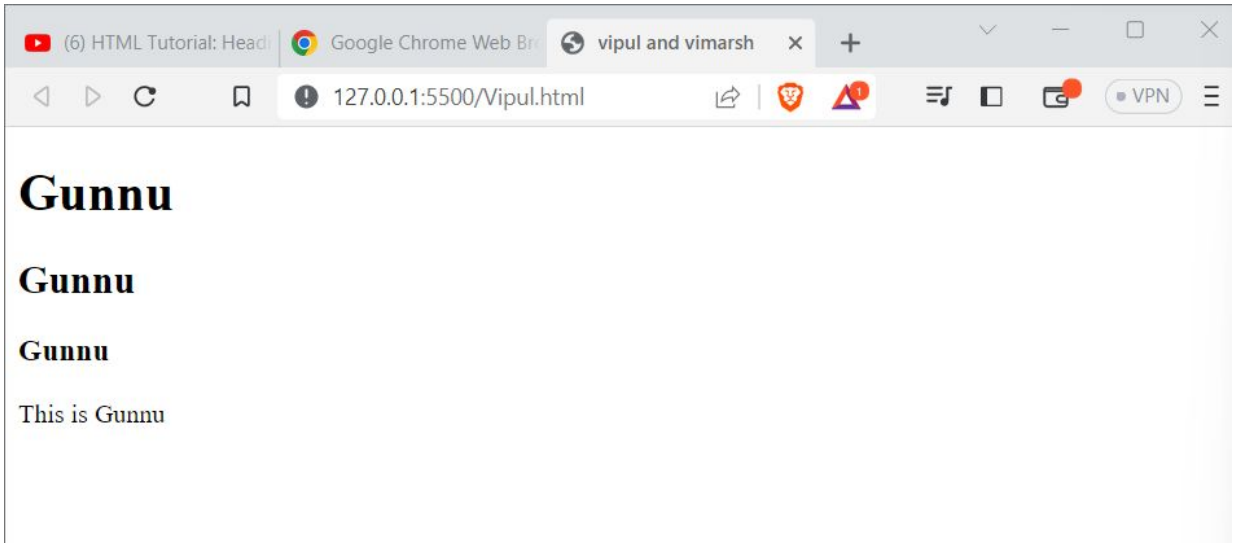
Crawlers are also used by other types of web services, such as web archiving services, website monitoring tools, and content scraping tools. The behavior of crawlers can be controlled by website owners using various techniques such as robots.txt files and the use of `noindex` and `nofollow` meta tags.

How can we provide our **css** and **js** file in the html

```
<!DOCTYPE html>
<!-- comments -->
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta name="decription" content="this is description of my page">
    <meta name="keywords" content="html,css,javascript">
    <meta name="robots" content="NOINDEX, NOFOLLOW">
    <title>vipul and vimarsh </title>

    <!-- This is how you can include external css -->
    <link rel="stylesheet" href="vipul.css"> <!--this is how we provide our "vipul.css" file to html-->

 <!-- This is how you include external JavaScript -->
    <script src="vipul.js"></script> <!--this is how we provide our "vipul.js" file to html-->


</head>
<body>
   hello world vimmuwec
</body>
</html>
```

Suppose we want to add something in the body

Like this **Header** the **subheader** and the one more **subheader** after that **paragraph**

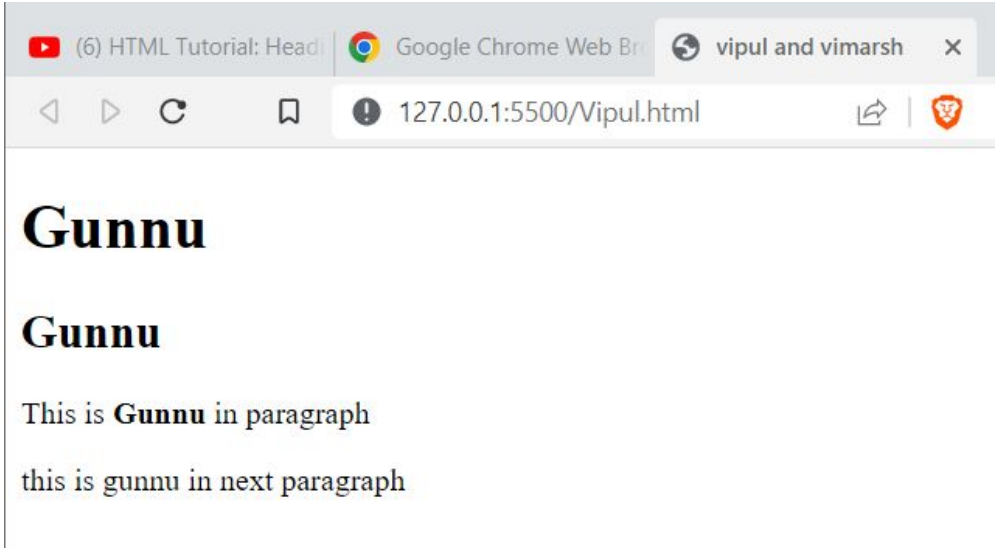


```
<!DOCTYPE html>
<!-- comments -->
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0" >

    <title>vipul and vimarsh </title>
</head>
<body>
   <h1>Gunnu</h1>
   <h2>Gunnu</h2>
   <h3>Gunnu</h3>
   <p>This is Gunnu</p>

</body>
</html>
```

We can add upto `<h6>Gunnu</h6>` six headers in the html

Suppose, we want to make some text bold in the paragraph

```
<body>
    <h1>Gunnu</h1>
    <h2>Gunnu</h2>
    <p>This is <strong>Gunnu</strong> in paragraph</p>
    <p>this is gunnu in next paragraph </p>
    </body>
```

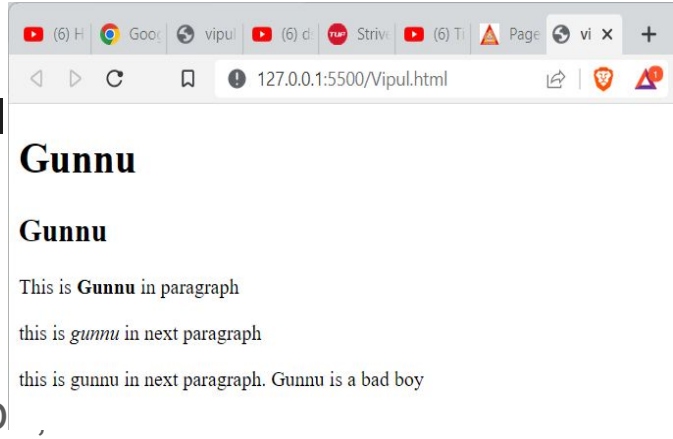


Suppose, we want to make some text italic(or we can say emphasized) in the paragraph

```
<body>
    <h1>Gunnu</h1>
    <h2>Gunnu</h2>
    <p>This is <strong>Gunnu</strong> in paragraph</p>
    <p>this is <em>gunnu</em> in next paragraph </p>
    </body>
```

Suppose, we want to make some text to go in to the next line in the paragraph

```
<body>
    <h1>Gunnu</h1>
    <h2>Gunnu</h2>
    <p>This is <strong>Gunnu</strong> in paragraph</p>
    <p>this is <em>gunnu</em> in next paragraph</p>
    <p>this is gunnu.

        Gunnu is a bad boy</p>
    </body>
```

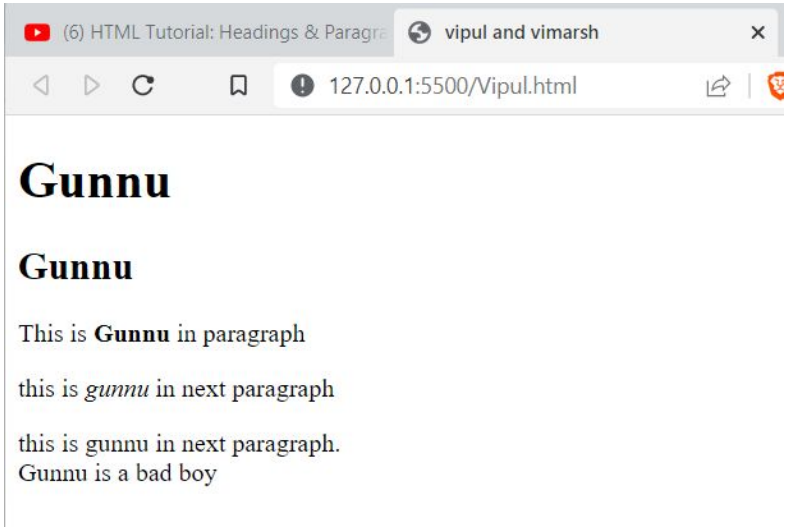


Even though I have provided the next line to <p> paragrap
but “gunnu is a bad boy” come in the same line, because
HTML doesn’t consider the extra spaces

So, what we will do

Suppose, we want to make some text to go in to the next line in the paragraph

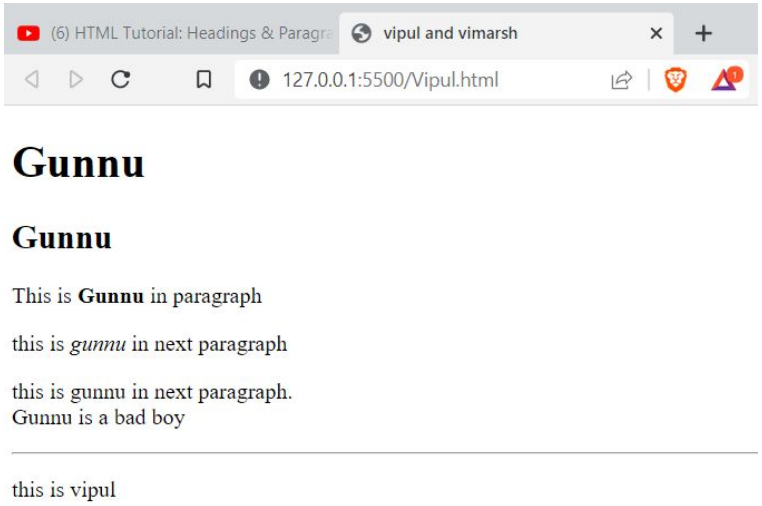
```
<body>
    <h1>Gunnu</h1>
    <h2>Gunnu</h2>
    <p>This is <strong>Gunnu</strong> in paragraph</p>
    <p>this is <em>gunnu</em> in next paragraph</p>
    <p>this is gunnu.<br>Gunnu is a bad boy</p>
    </body>
```



 is a self closing tag, because we just need to change the line only.

Suppose, we want a line ruler in the paragraph

```
<body>
    <h1>Gunnu</h1>
    <h2>Gunnu</h2>
    <p>This is <strong>Gunnu</strong> in paragraph</p>
    <p>this is <em>gunnu</em> in next paragraph</p>
    <p>this is gunnu in next paragraph. <br>Gunnu is a bad boy</p>
    <hr>
    <p>this is vipul </p>
    </body>
    </body>
```



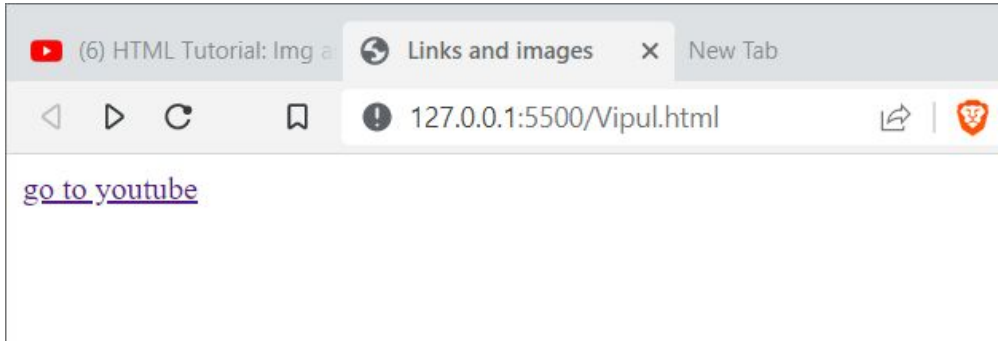
Links , Images and Anchor tags

Suppose we want to attach the link to our web page

```
<!DOCTYPE html>
<!-- comments -->
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Links and images </title>
</head>
<body>
 <a href="https://www.youtube.com">go to youtube</a>
    </body>

</html>
```

Now we can see the hyperlink text

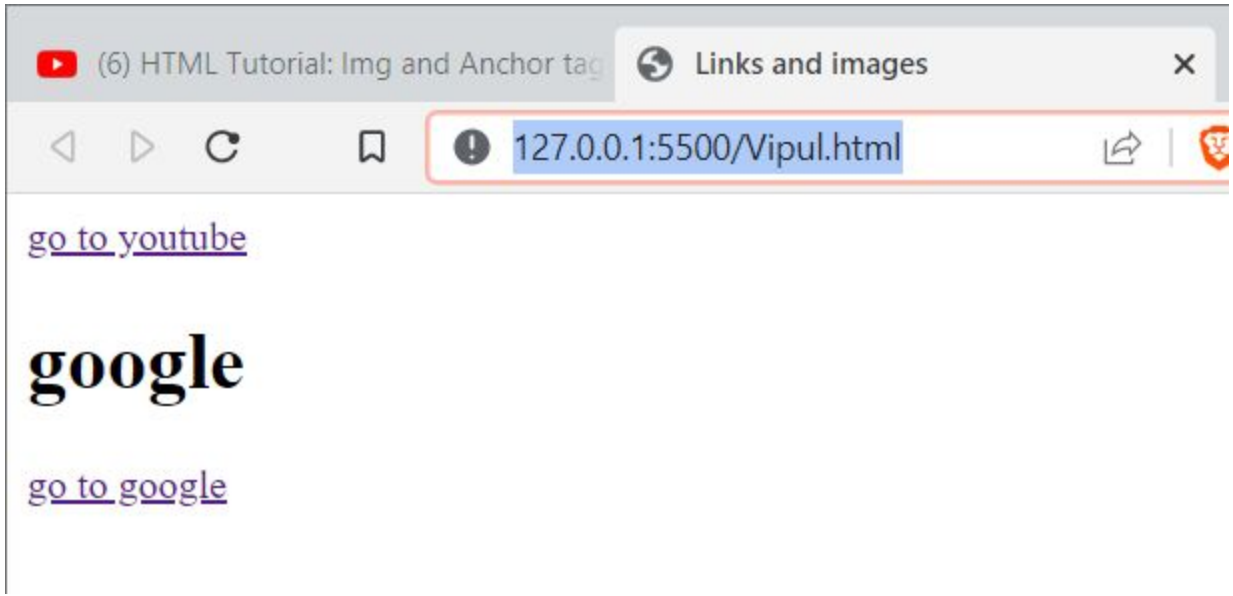
on our page



One more example of link with added header

```
<!DOCTYPE html>
<!-- comments -->
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Links and images </title>
</head>
<body>
 <a href="https://www.youtube.com">go to youtube</a>
 <h1>google</h1>
 <a href="https://www.google.com/">go to google</a>
    </body>

</html>
```

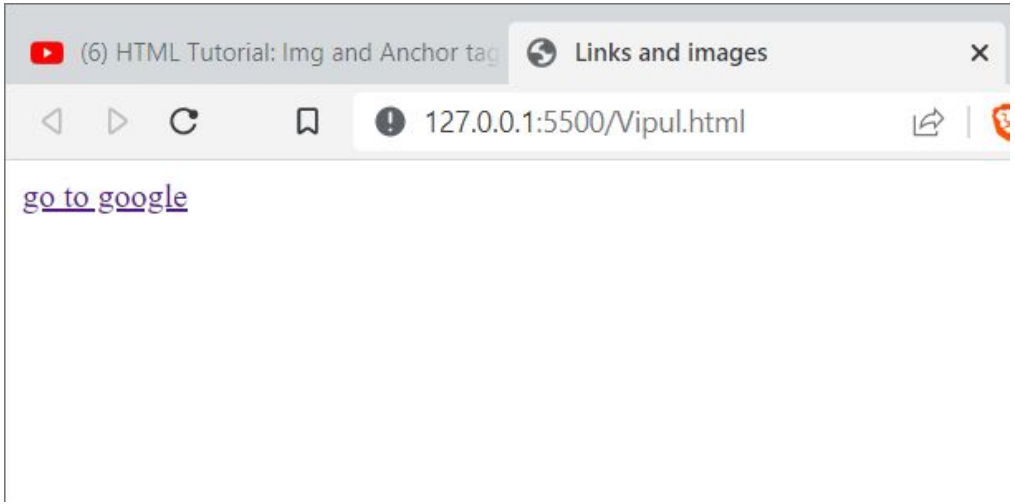
result


(6) HTML Tutorial: Img and Anchor tag
Links and images
127.0.0.1:5500/Vipul.html
go to youtube
google
go to google

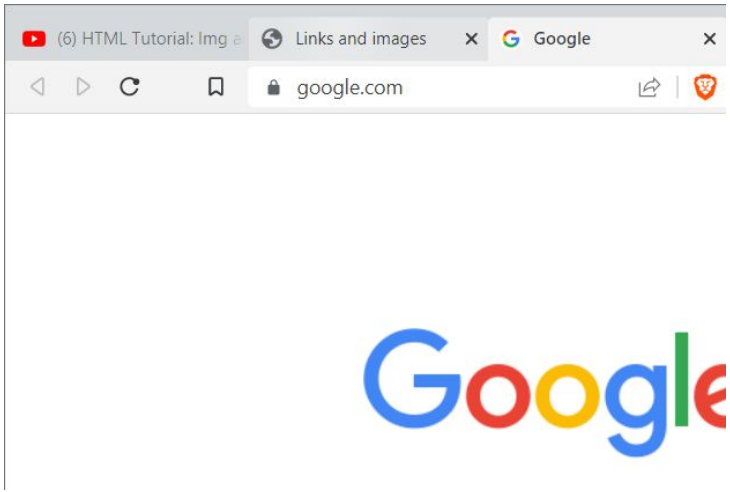
Suppose we want to open a new tab when we click on that hyperlink

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Links and images </title>
</head>
<body>

 <a href="https://www.google.com"  target="_blank">go to google</a>

    </body>
</html>
```

result



Now when we click on the link a new tab get open

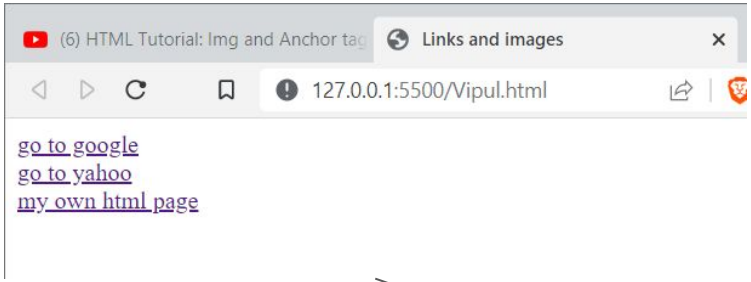


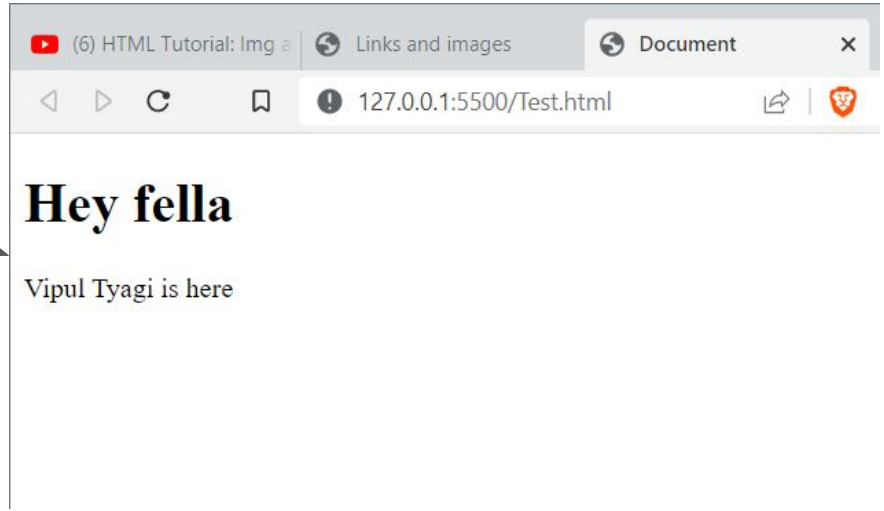
What if you wanna add your html page

```
<!DOCTYPE html>
<!-- comments -->
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Links and images </title>
</head>

<body>

 <a href="https://www.google.com"  target=" blank">go to google</a><br>
 <a href="https://www.yahoo.com"  target=" blank">go to yahoo</a><br>
 <a href="/Test.html" target="_blank">my own html page</a>

    </body>

</html>
```

This “**Test.html**” is my own file

Result


(6) HTML Tutorial: Img and Anchor tag
Links and images
127.0.0.1:5500/Vipul.html
go to google
go to yahoo
my own html page

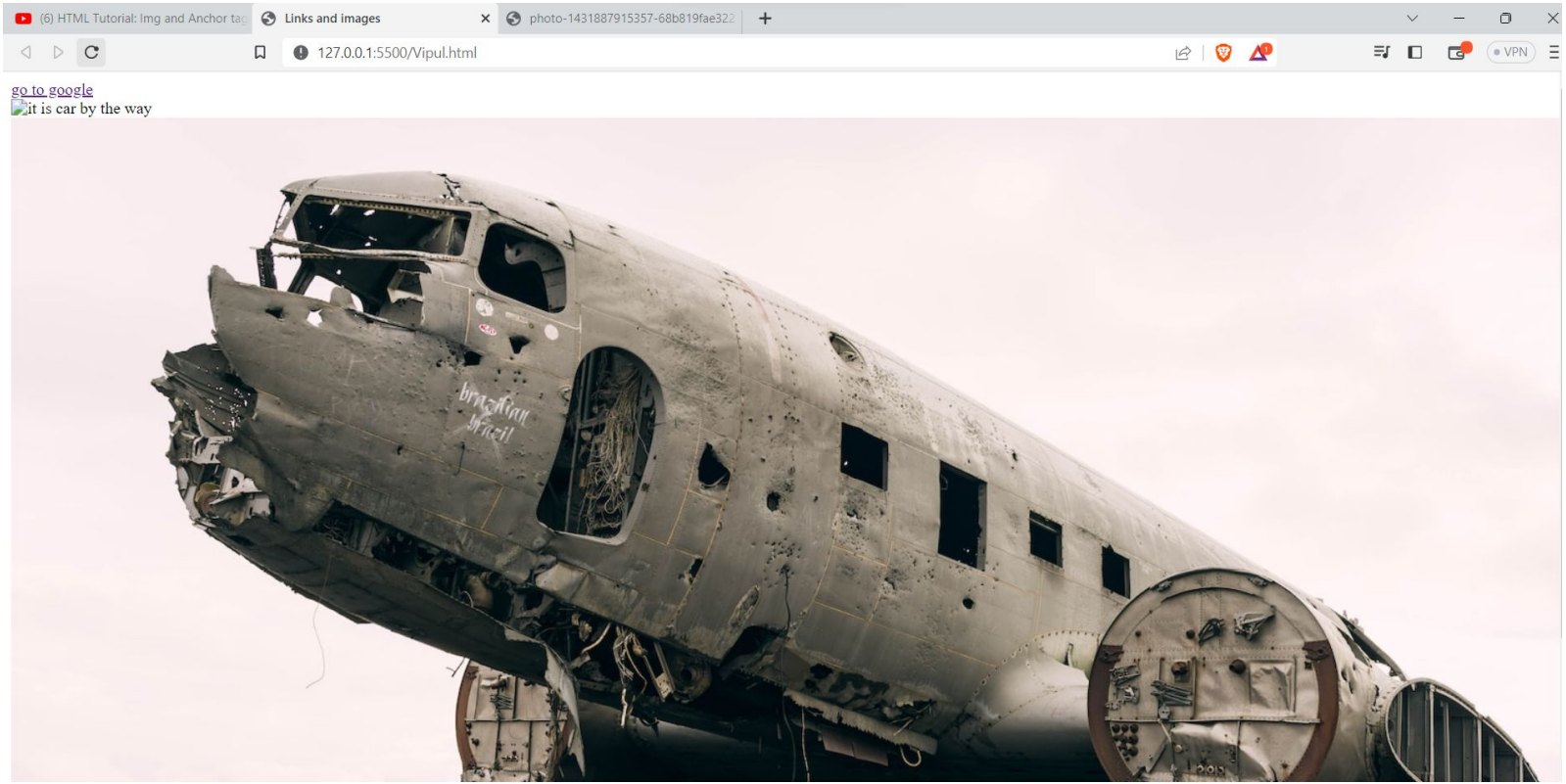

(6) HTML Tutorial: Img a
Links and images
Document
127.0.0.1:5500/Test.html
Hey fella
Vipul Tyagi is here

Let’s add Images in our web page

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0" >
    <title>Links and images </title>
</head>

<body>

 <a href="https://www.google.com"target="_blank">go to google</a><br>

 <!-- Image is not present hence "alt" text is shown, because "Planet9_3840x2160.jpg" is not present
anywhere -->
  <img src="Planet9_3840x2160.jpg" alt="it is car by the way">

  <!-- I have taken this from a website which generate random images -->
  <img src="https://source.unsplash.com/user/erondu/1600x900" alt="it is nature by the way">

    </body>

</html>
```

We have to provide the image path to the “src”, if doesn’t find anything it will print the “alt” part

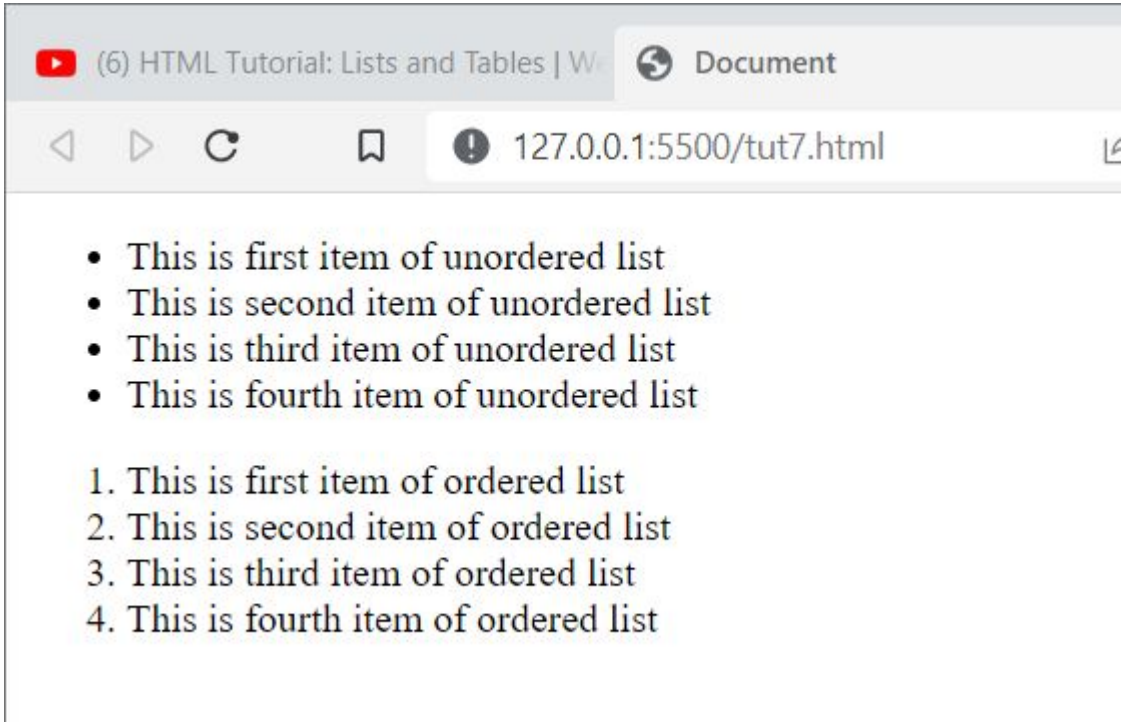
Result


(6) HTML Tutorial: Img and Anchor tag
Links and images
photo-1431887915357-68b819fae322
127.0.0.1:5500/Vipul.html
VPN
go to google
it is car by the way

Lists and Tables (tut-7)

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <ul>
        <li>This is first item of unordered list</li>
        <li>This is second item of unordered list</li>
        <li>This is third item of unordered list</li>
        <li>This is fourth item of unordered list</li>
    </ul>

    <ol>

         <li>This is first item of ordered list</li>
         <li>This is second item of ordered list</li>
         <li>This is third item of ordered list</li>
         <li>This is fourth item of ordered list</li>
    </ol>
</body>
</html>
```

Result



well, default numbering of ordered list is in number

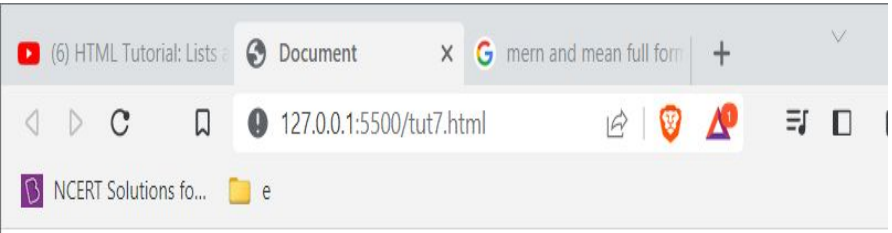
well, we can also change it

Lists and Tables (tut-7) change in the order list

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <ul>
        <li>This is first item of unordered list</li>
        <li>This is second item of unordered list</li>
        <li>This is third item of unordered list</li>
        <li>This is fourth item of unordered list</li>
    </ul>

    <ol type=”a”>

        <li>This is first item of ordered list</li>
        <li>This is second item of ordered list</li>
        <li>This is third item of ordered list</li>
        <li>This is fourth item of ordered list</li>
    </ol>
</body>
</html>
```

We can put
‘**1**’ for number
‘**A**’ for capital alphabet
‘**a**’ for small alphabet
‘**i**’ for small roman number
‘**I**’ for large roman number

Result



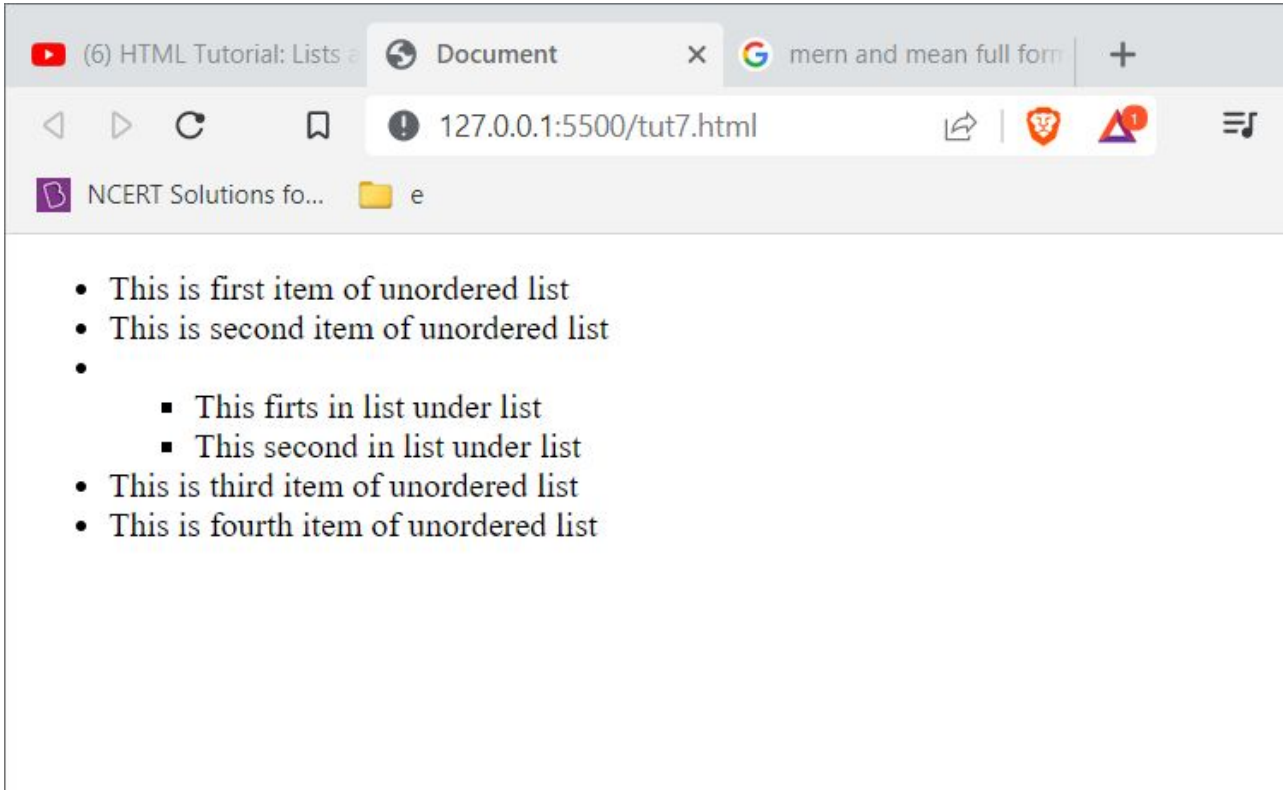
- This is first item of unordered list
- This is second item of unordered list
- This is third item of unordered list
- This is fourth item of unordered list

a. This is first item of ordered list
b. This is second item of ordered list
c. This is third item of ordered list
d. This is fourth item of ordered list

Lists and Tables (tut-7) List under list

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <ul>
        <li>This is first item of unordered list</li>
        <li>This is second item of unordered list</li>
        <li>
            <ul type="square">
                <br>
                <li>This firts in list under list </li>
                <li>This second in list under list </li>
            </ul>
        </li>
        <li>This is third item of unordered list</li>
        <li>This is fourth item of unordered list</li>
    </ul>

</body>
</html>
```

Result


(6) HTML Tutorial: Lists
Document
mern and mean full form
127.0.0.1:5500/tut7.html
NCERT Solutions fo...
e
This is first item of unordered list
This is second item of unordered list
This firts in list under list
This second in list under list
This is third item of unordered list
This is fourth item of unordered list

Lists and Tables (tut-7) Tables

```
<body>
<h3>HTML Table</h3>

<table>
    <thead>
        <tr>
            <th>Name</th>
            <th>class</th>
            <th>Roll no</th>
        </tr>
    </thead>

    <tbody>
        <tr>
            <td>vipul</td>
            <td>tenth</td>
            <td>5252510</td>
        </tr>

        <tr>
            <td>vimmu</td>
            <td>seventh</td>
            <td>14</td>
        </tr>

        <tr>
            <td>d</td>
            <td>indrap</td>
            <td>1</td>
        </tr>

    </tbody>
</table>

</body>
```

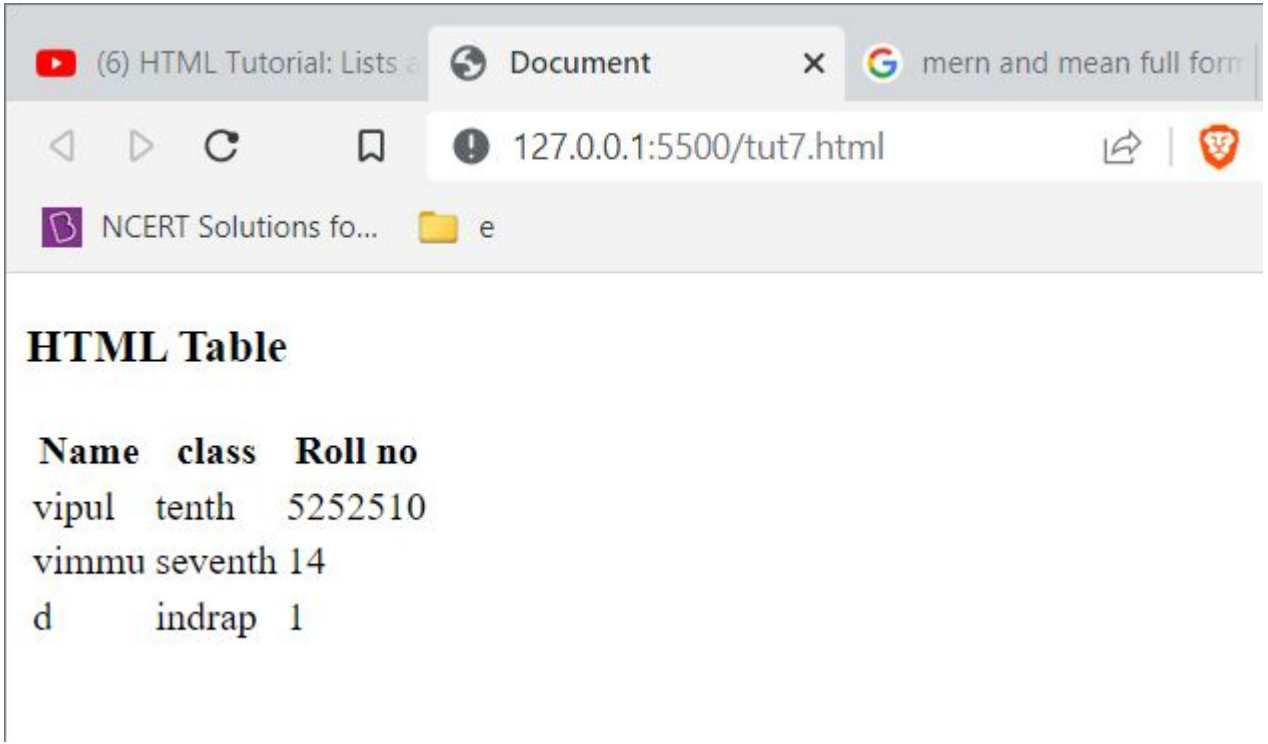
Header of the table

Table row

Table have mainly two things:

1. Table Head
2. Table Body

Result


(6) HTML Tutorial: Lists
Document
mern and mean full form
127.0.0.1:5500/tut7.html
NCERT Solutions fo...
e
HTML Table
Name class Roll no
vipul tenth 5252510
vimmu seventh 14
d indrap 1

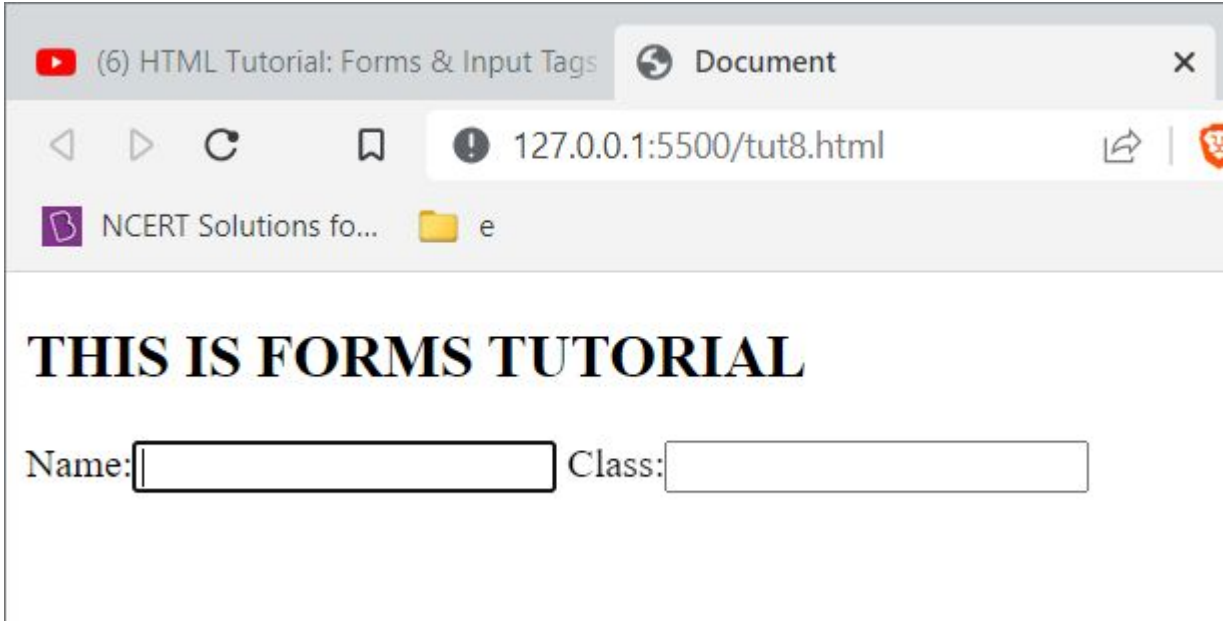
Forms and Input Tags (tut8.html)

```
<!DOCTYPE html>
<html lang="en">
<head>

</head>

<body>
  <h2>THIS IS FORMS TUTORIAL</h2>
        <form action="tracker-server backend.">
            Name:<input type="text">
            Class:<input type="text">
        </form>
</body>

</html>
```

Result

But as we can see, both the fields coming in a same line, we can use <br> tag but

It is not conventional here, so we will use ** ** p.t.o



Understanding ** **

```
<body>
  <h2>THIS IS FORMS TUTORIAL</h2>
        <form action="tracker-server backend.">
            Name:<input type="text">
            Class:<input type="text">
        </form>
</body>
```

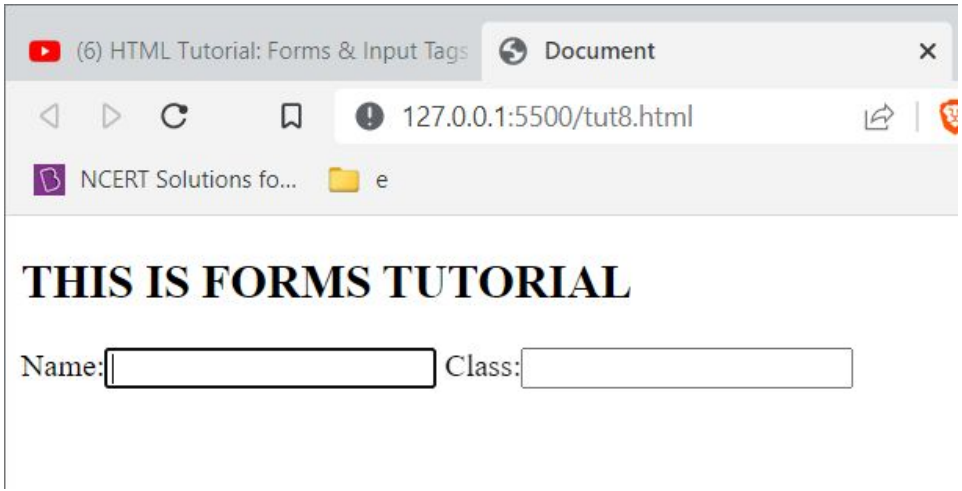
They are inline elements. It means they will take single line, so to change their line we can <br> tag but it is not conventional

```
<body>
  <h2>THIS IS FORMS TUTORIAL</h2>
        <form action="tracker-server backend.">
            <div>
            Name:<input type="text">
            </div>
            <div>
            Class:<input type="text">
             </div>
        </form>
</body>
```

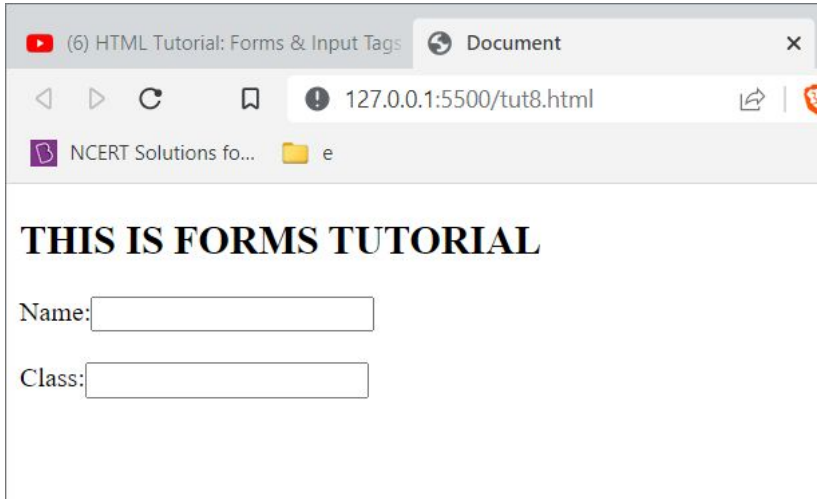
 is a block element. It will take whole block and fore other block to go down

result

Before



After



But how we store these value to any database?

ANSWER: via backend

```
<form action="tracker-server_backend.java" >
 <div>
   Name:<input type="text" name="nameText" >
 </div>
 <div>
   Class:<input type="text" name="classText" >
 </div>
 <div>
   Date:<input type="date" name="formDate">
 </div>
 <div>
       <input type="submit" name="submit">
 </div>
</form>
```

This is the connection of backend

This is the type of text

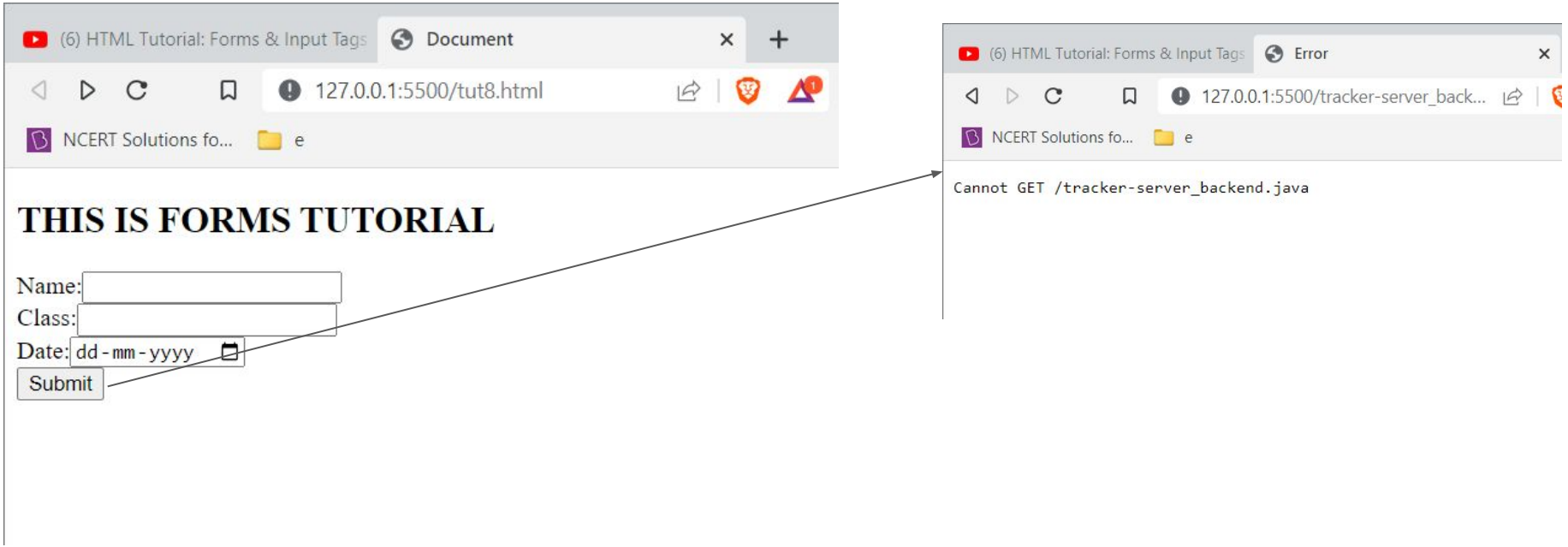
This is the name of field in which we are providing the data to our backend in json format

Suppose we have a entity in backend which have three field

public String nameText;
public String classText;
public Date formDate;

So we will assign these Name,Class,Date to the backend entity by submitting the data

Result

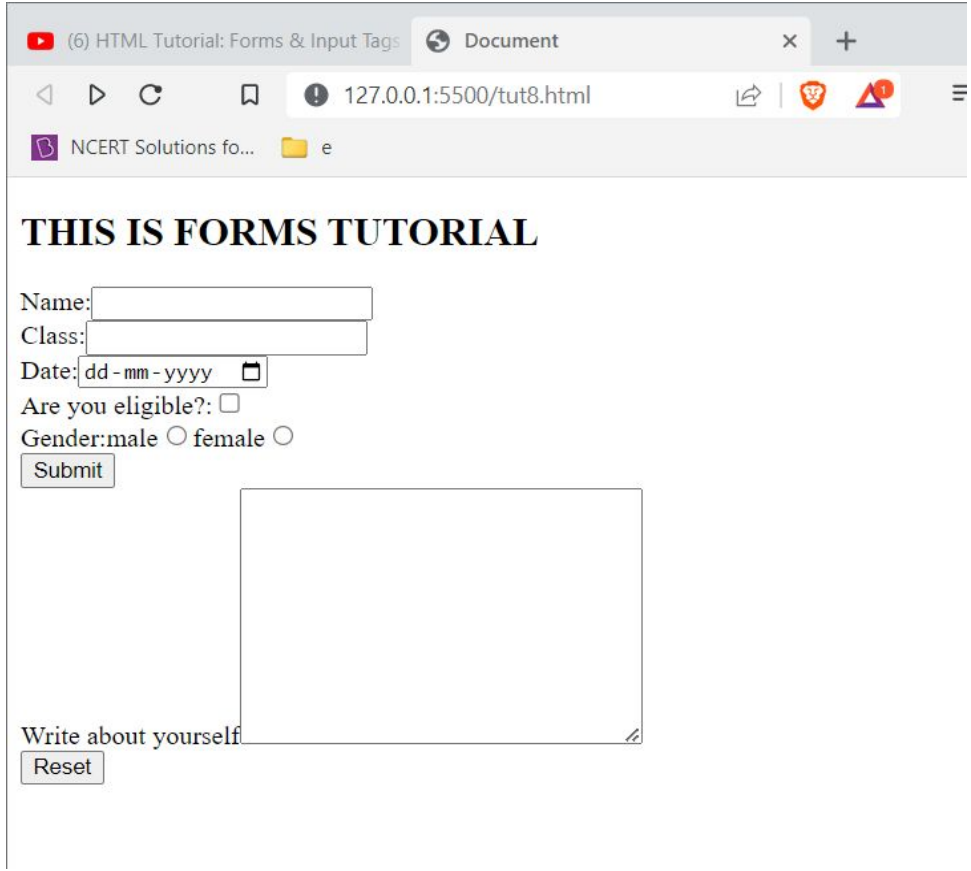


If we submit it, it will throw the error because there is no actual backend present

Forms and Input Tags (tut8.html) more fields in the forms

```
<form action="tracker-server_backend.java" >
    <div>
    Name: <input type="text" name="nameText" >
    </div>
    <div>
    Class: <input type="text" name="classtext" >
    </div>
    <div>
        Date: <input type="date" name="date">
        </div>
    <div>
    <div>
        Are you eligible?:< input type="checkbox" name="myEligibilty">
    </div>
    <div>
  Gender:male< input type="radio" name="studentGender">female< input type="radio" name="studentGender">
    </div>
    <div>
                <input type="submit" name="submit" >
    </div>
    <div>
                < input type="reset">
    </div>
    <div>
        Write about yourself<textarea type="myText" cols="30" rows="10"></textarea>
    </div>
</form>
```

Result

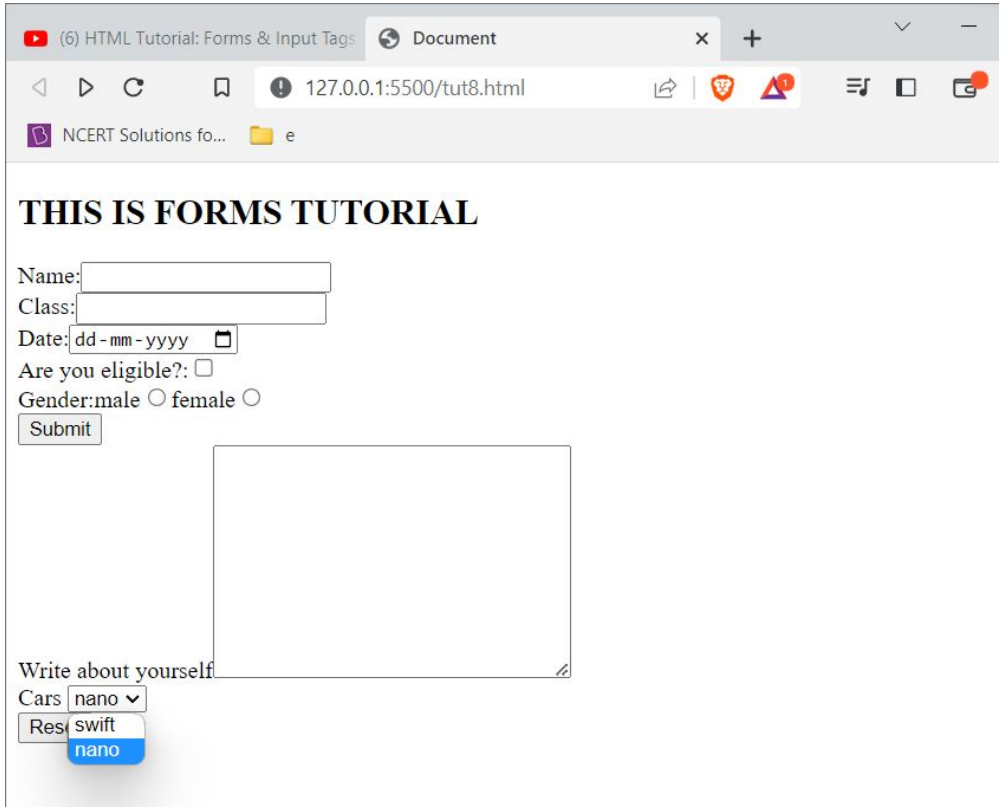

(6) HTML Tutorial: Forms & Input Tags
Document
127.0.0.1:5500/tut8.html
NCERT Solutions fo...
e
THIS IS FORMS TUTORIAL
Name:
Class:
Date:
dd-mm-yyyy
Are you eligible?:
Gender:male female
Submit
Write about yourself
Reset

Now we will talk about “select”

```
<div>
    <label for="car">Cars</label>
    <select name="myCars" id="car">
        <option value="Suzuki">swift</option>
        <option value="Tata"selected>nano</option>
    </select>
</div>
```

By default nano is **selected**

Result

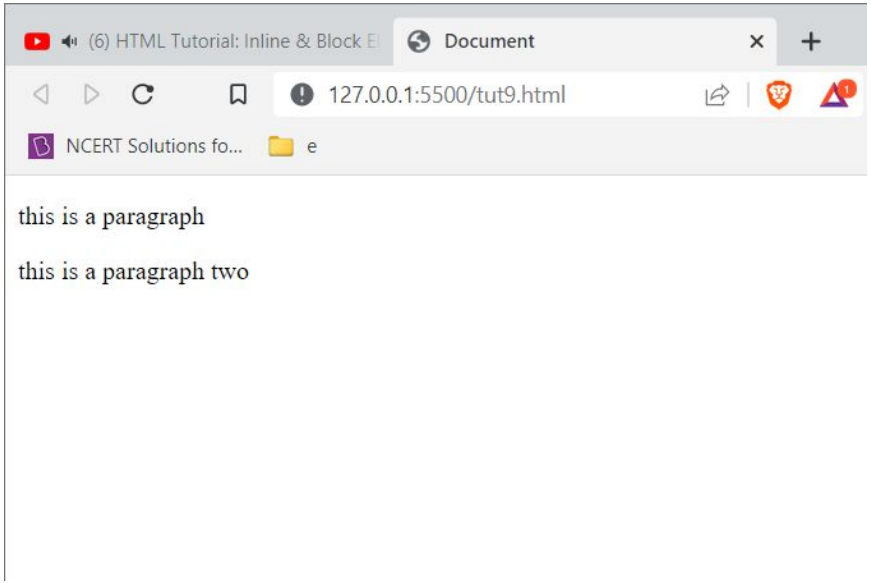

(6) HTML Tutorial: Forms & Input Tags
Document
127.0.0.1:5500/tut8.html
NCERT Solutions fo...
e
THIS IS FORMS TUTORIAL
Name:
Class:
Date:
dd-mm-yyyy
Are you eligible?:
Gender:male female
Submit
Write about yourself
Cars
nano
Res
swift
nano

Inline and Block Element

```
<body>
    <p>this is a paragraph</p>
    <p>this is a paragraph two</p>
</body>
```

This is block element to make the paragraph line same we have to use r tag instead of because it is inline element

Result


(6) HTML Tutorial: Inline & Block E
Document
127.0.0.1:5500/tut9.html
NCERT Solutions fo...
e
this is a paragraph
this is a paragraph two