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Academic year: 2024 - 2025, 3rd Semester, B.Tech CYS

20CYS202

USER INTERFACE DESIGN L-T-P-C:1-0-3-2

Lab Sheet 3 (14th October)

Exercise 3.1

1. Write an HTML snippet that creates a <div> with a green border, 15px padding, and a light gray background using inline styles.
2. How would you create an inline style that sets the font size to 24px, font weight to bold, and font style to italic, background color yellow with red color font for an <h1> tag?
3. Create 3 paragraphs of 100 words. Give a title and provide a heading for each paragraph. Write an internal style rule.
 - a. Highlight the important words in all paragraphs using the "highlight" class, which has a yellow backdrop and bold text.
 - b. The title should be centered and red colour.
 - c. The header should be in h2 size and underlined.
4. Design a simple web page using an external CSS and a universal selector that includes the following:
 - a. Title
 - b. Three paragraphs with headings
 - c. An Image

Ensure the following styles:

- i. The webpage uses Roboto font from the external CSS file
- ii. and Apply styles to change the font color of all paragraphs to blue and set the background color of the body to light yellow

- iii. Image border 3px with a green border color
- iv. Reset the margin and the padding.

5. Create a simple table with at least 10 rows and 3 columns. Use group selectors to set the border for all table cells (<td>) to 2 pixel solid black and change the background color for the alternate rows to green and grey(or any color of your choice). Follow the table heading style as shown in the picture.

First Name	Second Name	Roll number
trdy	Test	test
Test	Test	test
Test	Test	test
Test	Test	test
Test	Test	test
Test	Test	test
Test	Test	test

6. Create an unordered list with 3 items. The items should be clickable. Use the id selector to ensure
- a. They do not have an underline beneath
 - b. change the font style of all list items to **italic** and change the list style to **circle**.
 - c. Apply the following Link Pseudo-Classes and change the colours of the links
 - i. :link
 - ii. :visited
 - iii. :hover
 - iv. :active

7. Create four buttons. Use a class to change the background color of all buttons to orange and the text color to white with a rounded corner and a hovering button

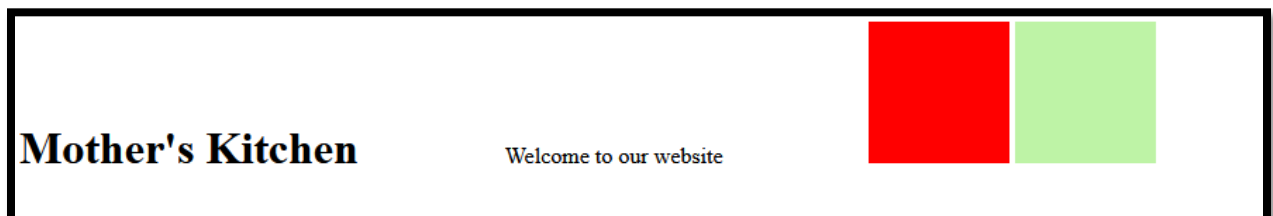
Exercise 3.2

Create picture 1 and convert it to pic2 using the display properties.

Pic1



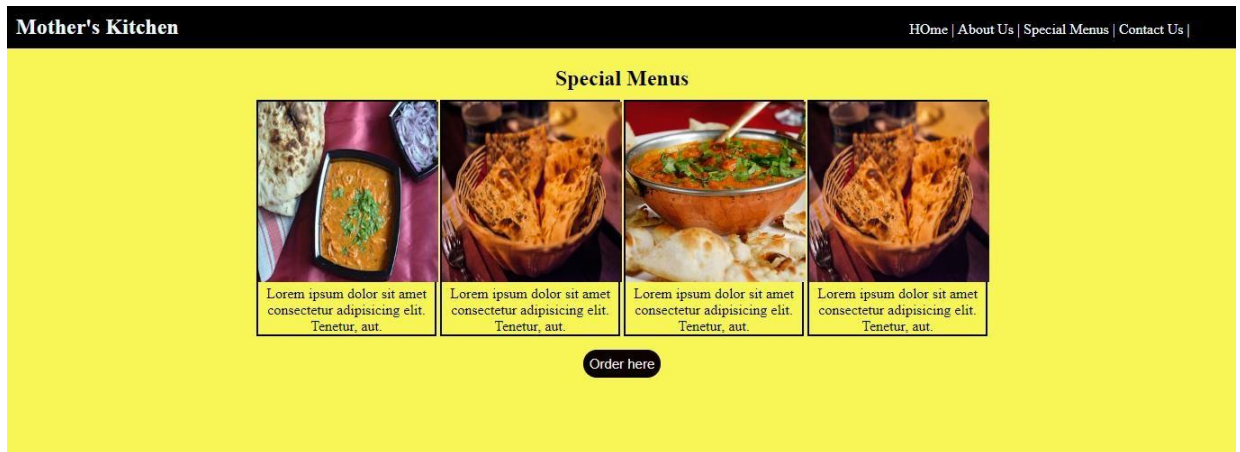
Pic 2



Exercise 3.3

Create a food gallery using only the **display property** learned in the class.

- Create a link hover for the menu on the menu bar
- Create a hover effect for the food menu description below.



ANSWER :

127.0.0.1:5500/lab3/index.html

welcome chapter-1

Introduction to Stream Ciphers

Cryptography is essential for safeguarding Symmetric cryptography is split into **block ciphers and stream ciphers**, which are easy to distinguish. Figure 1 below shows the operational differences between stream and block ciphers when we want to encrypt b bits at a time, where b is the width of the block cipher

Random Number Generators

- True Random Number Generators
- Pseudorandom Number Generators
- Cryptographically Secure Pseudorandom Number Generators

True Random Number Generators (TRNG) :

True random number generators (TRNGs) are characterized by the fact that their output cannot be reproduced. For instance, if we flip a coin 100 times and record the resulting sequence of 100 bits, it will be virtually impossible for anyone on Earth to generate the same 100 bit sequence. **chance of success is $(1/2)^{100}$** , which is an extremely small probability. TRNGs are based on physical processes. Examples include coin flipping, rolling of dice

Pseudorandom Number Generators (PRNG) :

Pseudo-random number generators (PRNGs) are algorithms used to produce sequences of numbers that approximate the properties of random numbers. Unlike true random numbers, which are generated from physical processes (like radioactive decay or thermal noise), pseudo-random numbers are produced using deterministic processes. This means that **you know the initial state (often called the "seed") and the algorithm, you can predict the entire sequence of numbers**

Cryptographically Secure Pseudorandom Number Generators (CSPRNG) :

Cryptographically secure pseudorandom number generators (CSPRNGs) are a special type of PRNG which possess the following additional property: A CSPRNG is PRNG which is unpredictable. Informally, this means that given n output bits of **key stream s_1, s_2, \dots, s_{n+1}** , where n is some integer, it is computationally infeasible to compute the subsequent bits s_{n+1}, s_{n+2}, \dots . A more exact definition is that given n consecutive bits of the key stream, **there is no polynomial time algorithm that can predict the next bit s_{n+1} with better than 50% chance of success**. Another property of CSPRNG is that given the above sequence, it should be computationally infeasible to compute any preceding bits s_1, s_2, \dots

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

```

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
</head>
<body>
  <style>
    h1 {
      text-align: center;
      color: rgb(47, 33, 33);
    }
    h2 {
      text-decoration: underline;
    }
    .highlight {
      background-color: rgb(193, 248, 12);
      font-weight: bold;
    }
    body{
      background-color:rgb(224, 213, 213);
      font-family:Arial, Helvetica, sans-serif;
      font-weight: 700;
      color:black;
    }

  </style>
</head>
<body>
  <div style="border: 10px solid rgb(38, 224, 87) ; padding: 15px;">
    </div>
    <h1 style="font-size: 24px; font-weight: bold; font-style: italic;
background-color: rgb(211, 255, 14); color: rgb(237, 5, 5);">welcome chapter-1</h1>
    <h2>Introduction to Stream Ciphers</h2>
    <p>Cryptography is essential for safeguarding Symmetric cryptography is split into <span
class="highlight"> block ciphers and stream ciphers,</span> which
      are easy to distinguish.
      Figure i below shows the operational differences between stream and block
      ciphers when we want to encrypt b bits at a time, where b is the width of the
      block cipher </p>
    <h2>Random Number Generators</h2>
    <ul>
      <li>True Random Number Generators</li>
      <li>Pseudorandom Number Generators</li>
      <li>Cryptographically Secure Pseudorandom Number Generators</li>
    </ul>
    <p><h2> True Random Number Generators (TRNG) :</h2>True random number generators (TRNGs)
are characterized by the fact that
      their output cannot be reproduced. For instance, if we flip a coin 100 times
      and record the resulting sequence of 100 bits, it will be virtually impossible
      for anyone on Earth to generate the same 100 bit sequence. <span class="highlight"> chance of
      success is (1/2)</span>
      100, which is an extremely small probability. TRNGs are based
      on physical processes.
      Examples include coin flipping, rolling of dice</p>

```

Pseudorandom Number Generators (PRNG) :

Pseudo-random number generators (PRNGs) are algorithms used to produce sequences of numbers that approximate the properties of random numbers. Unlike true random numbers, which are generated from physical processes (like radioactive decay or thermal noise), pseudo-random numbers are produced using deterministic processes. This means that you know the initial state (often called the "seed") and the algorithm, you can predict the entire sequence of numbers

Cryptographically Secure Pseudorandom Number Generators (CSPRNG)

Cryptographically secure pseudorandom number generators (CSPRNGs) are a special type of PRNG which possess the following additional property: A CSPRNG is PRNG which is unpredictable. Informally, this means that given n output bits of key stream s_i , s_{i+1} , \dots , s_{i+n} where n is some integer, it is computationally infeasible to compute the subsequent bits s_{i+n} , s_{i+n+1} , \dots . A more exact definition is that given n consecutive bits of the key stream, there is no polynomial time algorithm that can predict the next bit s_{n+1} with better than 50% chance of success. Another property of CSPRNG is that given the above sequence, it should be computationally infeasible to compute any preceding bits s_1 , s_2 , \dots .

The screenshot shows a web browser window with the address bar displaying '127.0.0.1:5500/lab3/home.html'. The page has a yellow background and is titled 'block cipher'. It contains two sections: 'AES' and 'DES', each with a paragraph of text. Below these sections is a diagram illustrating the encryption and decryption processes for a block cipher. The diagram shows a sequence of blocks P_1, P_2, \dots, P_n being encrypted using a key k to produce ciphertext blocks C_1, C_2, \dots, C_n . The decryption process shows the ciphertext blocks C_1, C_2, \dots, C_n being decrypted using the same key k to recover the plaintext blocks P_1, P_2, \dots, P_n .

<!DOCTYPE html>

```

<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Web Page</title>
  <link href="..\css\style02.css" rel="stylesheet">
</head>
<body>
  <h1><center>block cipher</center></h1>

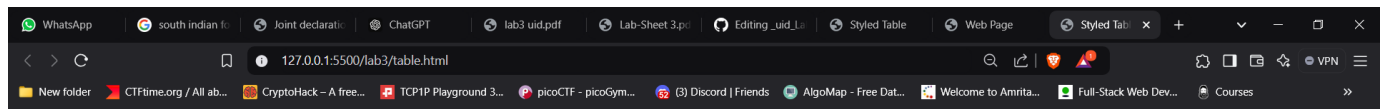
  <h2>block cipher</h2>
  <p>This is the first paragraph. It contains a long description about various aspects of the webpage
and its design. Designing web pages involves multiple elements including layout, structure, typography,
and user experience. This paragraph demonstrates how the text styling, colors, and fonts work
together to create a visually appealing and readable interface. Moreover, using external CSS allows for
cleaner and more maintainable code by separating the content from the presentation. The universal
selector in CSS helps ensure consistency across all elements, making the design more predictable and
user-friendly. Additionally, the use of web fonts, such as Roboto, improves the appearance of the text,
making it modern and easy to read. Overall, the design and implementation of a well-structured web
page contribute to both the aesthetic and functional aspects of the web, ultimately creating a better
user experience for visitors. Whether it's for personal use or business purposes, ensuring that a website
is accessible, responsive, and visually coherent is essential in today's web-driven world.</p>

  <h2>AES</h2>
  <p>This is the second paragraph. The styling will apply to all paragraphs on this page.Hello, world!
My name is Jen. I live in Boston. Minneapolis is awesome. Lorem ipsum dolor sit amet consectetur
adipiscing elit. Quisquam nostrum, ea consequatur quae impedit sunt cupiditate amet at saepe nulla
consequuntur tenetur, repellendus commodi voluptates molestiae deserunt fugit? Consequuntur odit
rem magni, veritatis distinctio unde. Tempore ad expedita fugit suscipit.</p>

  <h2>DES</h2>
  <p>This is the third paragraph. Notice the consistency of the styles applied through external
CSS. The requirements of the field are well within the capabilities of even the beginner in
photography, viz.; the ability to make good negatives and good prints, the ability to recognise news-
value, and a methodical plan to find the market where the prints will find acceptance. The man or
woman who can meet these requirements should be fairly successful from the beginning, and will open
up quickly new avenues of special work and profit."
  In short, the ability to make metaphors or create lovely heroines is not necessary for successfully
selling photographs to publications.
  Is the field overcrowded? <em>No</em>. If there were ten times as many persons engaged in the
work, they could all keep themselves busy.
  The field—how wide is it? Get out your map of the world. The field for <em>making</em>
photographs extends from the top margin to the bottom, and from the left to the right. The field for
<em>selling</em> photographs—which is more to the point—extends over about five thousand
publications that use prints; not to speak of a few score of other markets.</p></p>

  
</body>
</html>

```



Student Data Table

Name	Age	Grade
Alice	20	A
Bob	21	B
Clara	22	A
David	23	C
Eve	24	B
Frank	25	A
Grace	26	B
Henry	27	C
Isabel	28	A
John	29	B

List of Links

- [Hello](#)
- [welcome](#)
- [our_world](#)



```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Styled Table</title>
  <link href="..\css\style01.css" rel="stylesheet">
</head>
<body>

  <h1>Student Data Table</h1>

  <table>
    <th>
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Grade</th>
      </tr>
    </th>
    <tr>
      <td>Alice</td>
      <td>20</td>
      <td>A</td>
    </tr>
    <tr>
      <td>Bob</td>
      <td>21</td>
      <td>B</td>
    </tr>
    <tr>
```



```

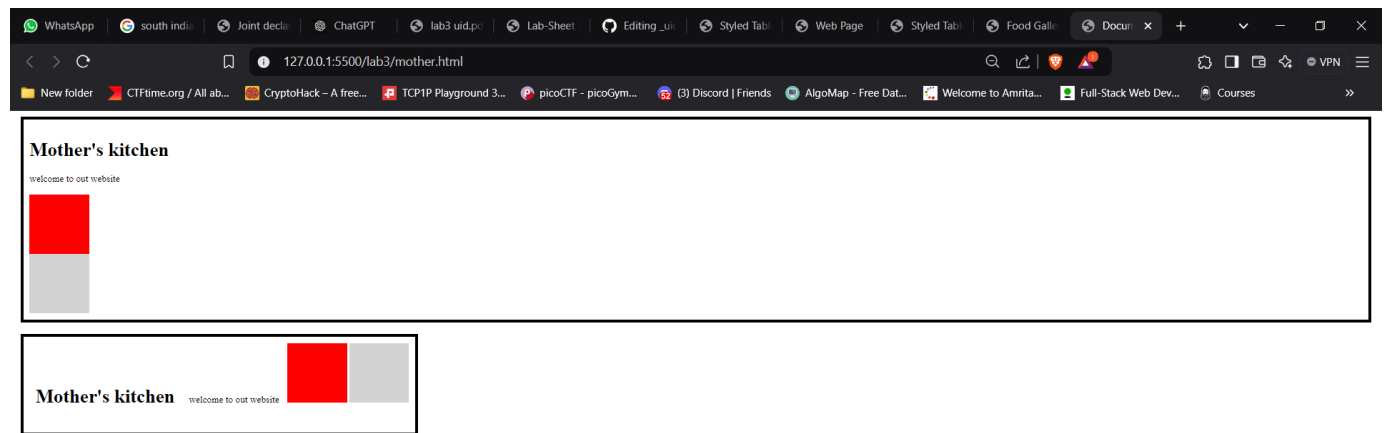
        <td>Clara</td>
        <td>22</td>
        <td>A</td>
    </tr>
    <tr>
        <td>David</td>
        <td>23</td>
        <td>C</td>
    </tr>
    <tr>
        <td>Eve</td>
        <td>24</td>
        <td>B</td>
    </tr>
    <tr>
        <td>Frank</td>
        <td>25</td>
        <td>A</td>
    </tr>
    <tr>
        <td>Grace</td>
        <td>26</td>
        <td>B</td>
    </tr>
    <tr>
        <td>Henry</td>
        <td>27</td>
        <td>C</td>
    </tr>
    <tr>
        <td>Isabel</td>
        <td>28</td>
        <td>A</td>
    </tr>
    <tr>
        <td>John</td>
        <td>29</td>
        <td>B</td>
    </tr>
</table>
<h2>List of Links</h2>
<ul id="links">
<li>
<a href="https://google.com">Hello</a>
</li>
<li>
<a href="https://google.com">welcome</a>
</li>
<li>
<a href="https://google.com">our_world</a>
</li>
</ul>
<button class="custom-button">1</button>
<button class="custom-button">2</button>
<button class="custom-button">3</button>

```

```

<button class="custom-button">4</button>
</body>
</html>

```



```

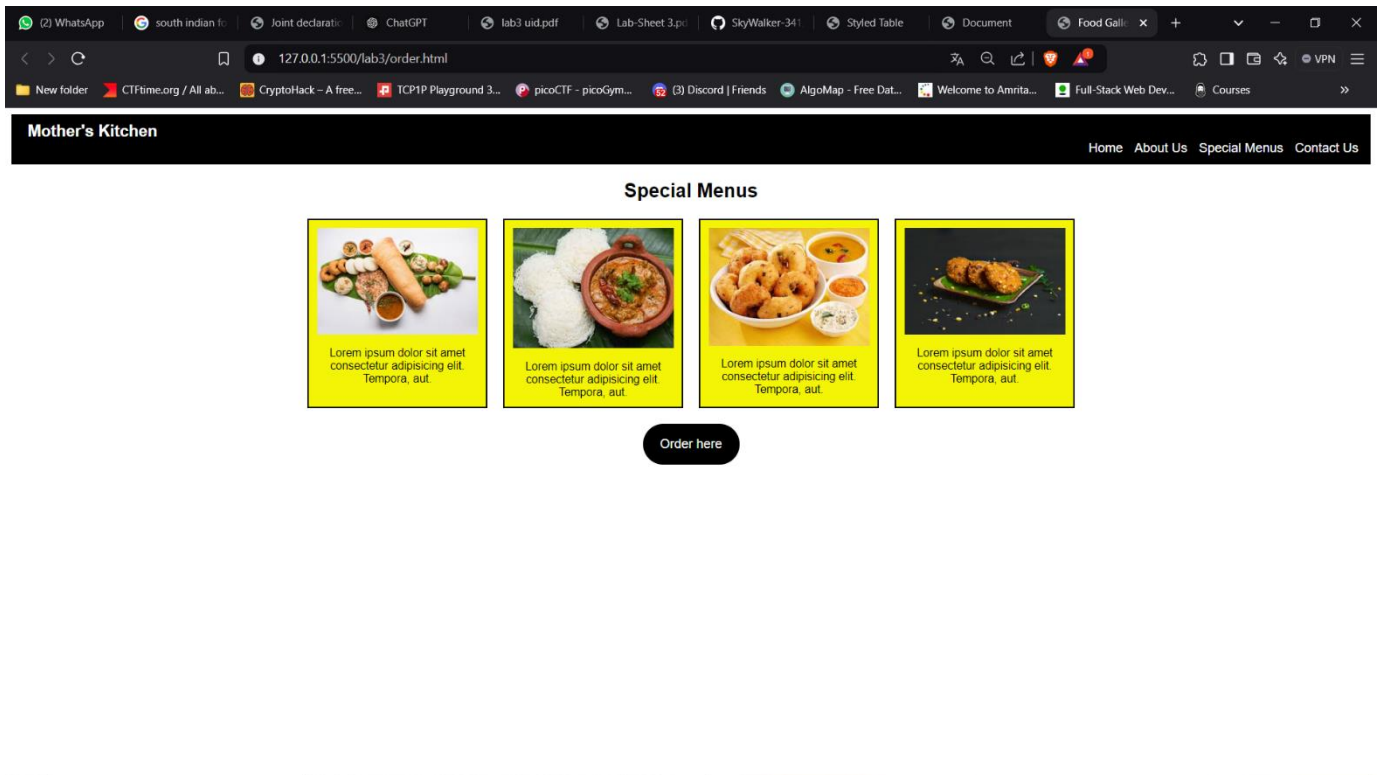
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<style>
.section{
border: 5px solid black;
padding: 10px;
margin: 10px;
}
</style>
</head>
<body>
<div class="section"><h1>Mother's kitchen</h1>
  <p>welcome to out website</p>
  <div style="background-color: red; height: 100px; width:
100px;"></div>
  <div style="background-color: lightgrey; height: 100px; width:
100px;"></div>
</div>
<div class="section" style="display: inline-block; padding: 10px;">
<h1 style="display: inline-block; padding: 10px;">Mother's
kitchen</h1>
<p style="display: inline-block; padding: 10px;">welcome to out

```

```

website</p>
<div style="background-color: red; width: 100px; height: 100px;
display: inline-block;"></div>
<div style="background-color: lightgrey; height: 100px; width: 100px;
display: inline-block;"></div>
</div>
</body>
</html>

```



```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Food Gallery</title>
  <style>
    body
    {
      font-family: Arial, sans-serif;
    }

    .navbar h2
    {
      margin: 0;
      padding-left: 10px;
      font-size: 20px;
    }
    .navbar

```

```
{  
  background-color: black;  
  color: white;  
  padding: 10px;  
  text-align: right;  
}
```

```
.navbar a  
{  
  color: white;  
  margin: 0 5px;  
  text-decoration: none;  
}
```

```
.navbar a:hover  
{  
  text-decoration: underline;  
  color: yellow;  
}
```

```
.container  
{  
  text-align: center;  
  margin: 20px auto;  
}
```

```
.menu-title  
{  
  font-size: 24px;  
  font-weight: bold;  
  margin-bottom: 20px;  
}
```

```
.gallery  
{  
  display: flex;  
  justify-content: center;  
  gap: 20px;  
  flex-wrap: wrap;  
}
```

```
.menu-item  
{  
  width: 200px;  
  border: 2px solid black;  
  padding: 10px;  
  background-color: #f4f405;  
}
```

```
.menu-item img  
{  
  width: 100%;  
  height: auto;  
}
```

```

.menu-description
{
    font-size: 14px;
    margin-top: 10px;
}

.menu-item:hover .menu-description
{
    color: red;
    font-weight: bold;
}

.order-btn {
    display: flex;
    justify-content: center;
    align-items: center;
    margin: 0 auto;
    margin-top: 10px;
    width: 100px;
    height: 30px;
    padding: 10px 10px;
    background-color: black;
    color: white;
    text-decoration: none;
    border-radius: 25px;
}

.order-btn:hover {
    background-color: green;
}

</style>
</head>
<body>

<div class="navbar">
    <h2 align="left">Mother's Kitchen</h2>
    <a href="#">Home</a>
    <a href="#">About Us</a>
    <a href="#">Special Menus</a>
    <a href="#">Contact Us</a>
</div>

<div class="container">
    <div class="menu-title">Special Menus</div>

    <div class="gallery">
        <div class="menu-item">
            

<div class="menu-description">Lorem ipsum dolor sit amet consectetur adipisicing elit.  
Tempora, aut.</div>  
</div>

<div class="menu-item">  
  
<div class="menu-description">Lorem ipsum dolor sit amet consectetur adipisicing elit.  
Tempora, aut.</div>  
</div>

<div class="menu-item">  
  
<div class="menu-description">Lorem ipsum dolor sit amet consectetur adipisicing elit.  
Tempora, aut.</div>  
</div>

<div class="menu-item">  
  
<div class="menu-description">Lorem ipsum dolor sit amet consectetur adipisicing elit.  
Tempora, aut.</div>  
</div>  
</div>  
</div>  
<a href="#" class="order-btn" >Order here</a>

</body>  
</html>