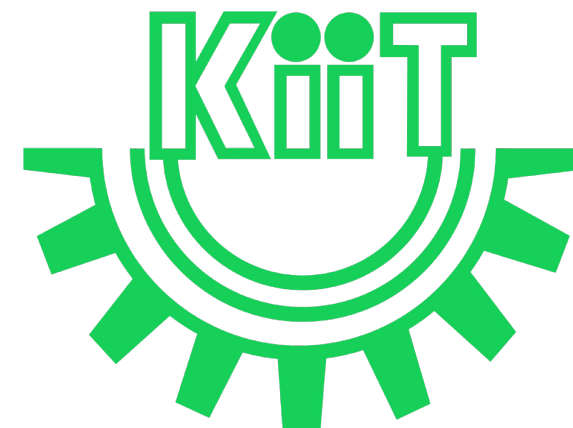IT-2094:
Web Technology

Lec-6

January 23 , 2023

In this Discussion . . .

- Div and Span

- Java : Language Fundamentals

  - History

  - Motivation

- References

HTML Div Tag

- The **\<div\>** (division) element is a generic block-level element that is typically used to separate page content into blocks.

A block element is a web page element that begins a new line and has the same width as the parent container or the full page.

- The div tag in HTML has both opening(\<div\>) and closing (\</div\>) tags.
- The \<div\> tag is used as a container for HTML elements, which is then styled with CSS or manipulated with JavaScript. The \<div\> tag is easily customized by using the class or id attribute.
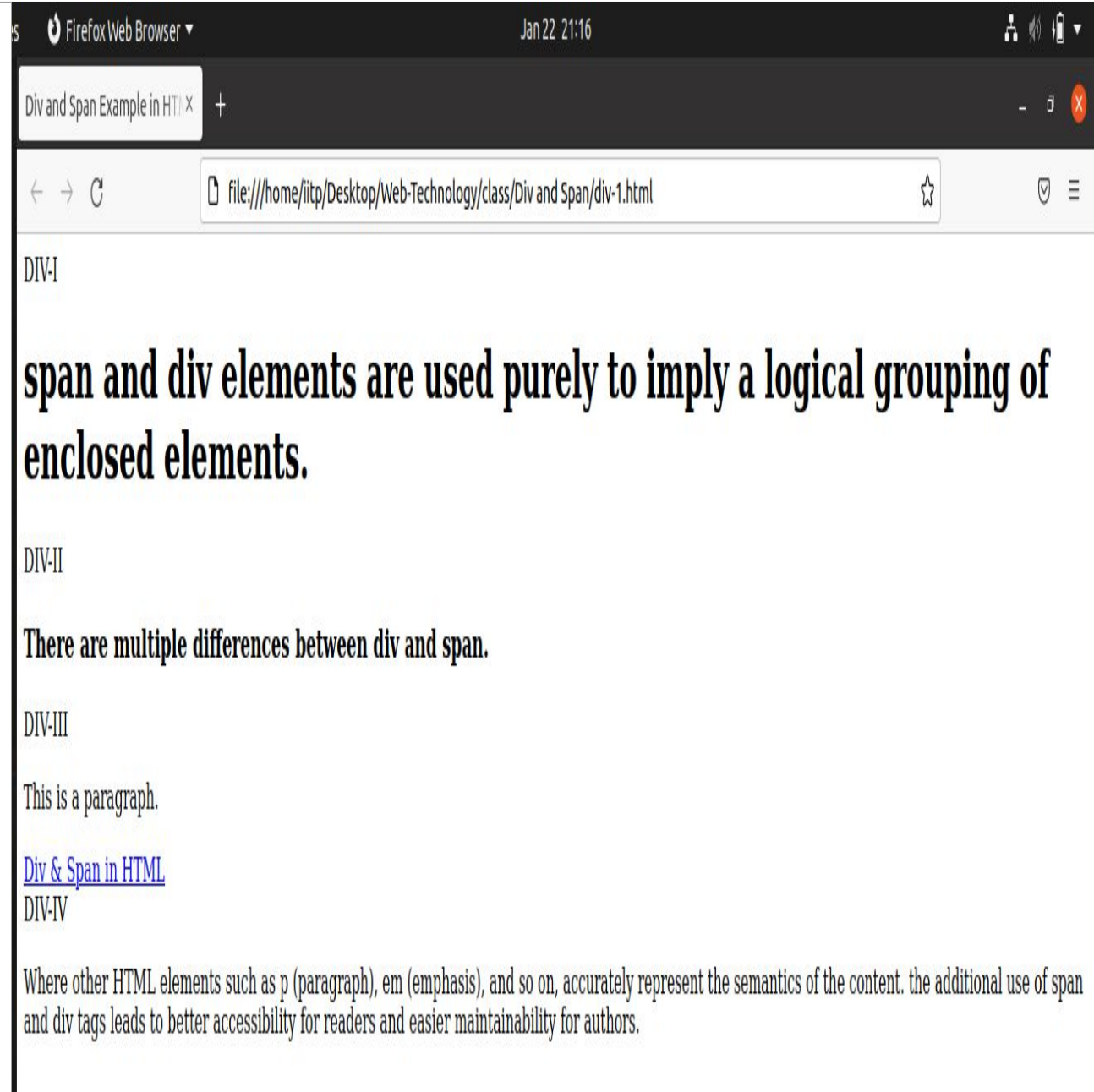
HTML Div Tag

- The div tag is used to divide web page content into sections, such as headers, footers, and navigations.
- Common uses for divs include grouping similar text, pictures, headers, and links.

Note: By default, browsers always insert a line break prior to and following the <div> element.

HTML Div Tag

```
<!DOCTYPE>
<html>
<head>
    <title>Div and Span Example in HTML</title>
</head>

<body>
  <div>
    DIV-I
    <h1>span and div elements are used purely to imply a
logical grouping of enclosed elements.</h1> </div>
  <div>
    DIV-II
    <h3>There are multiple differences between div and
span.</h3>  </div>
  <div>
    DIV-III
    <p>This is a paragraph.</p>
    <a href="https://en.wikipedia.org/wiki/Div_and_span"> Div &
Span in HTML</a> </div>
  <div>
    DIV-IV
    <p> Where other HTML elements such as p (paragraph), em
(emphasis), and so on, accurately represent the semantics of
the content. the additional use of span and div tags leads to
better accessibility for readers and easier maintainability for
authors.
    </p>  </div></body></html>
```
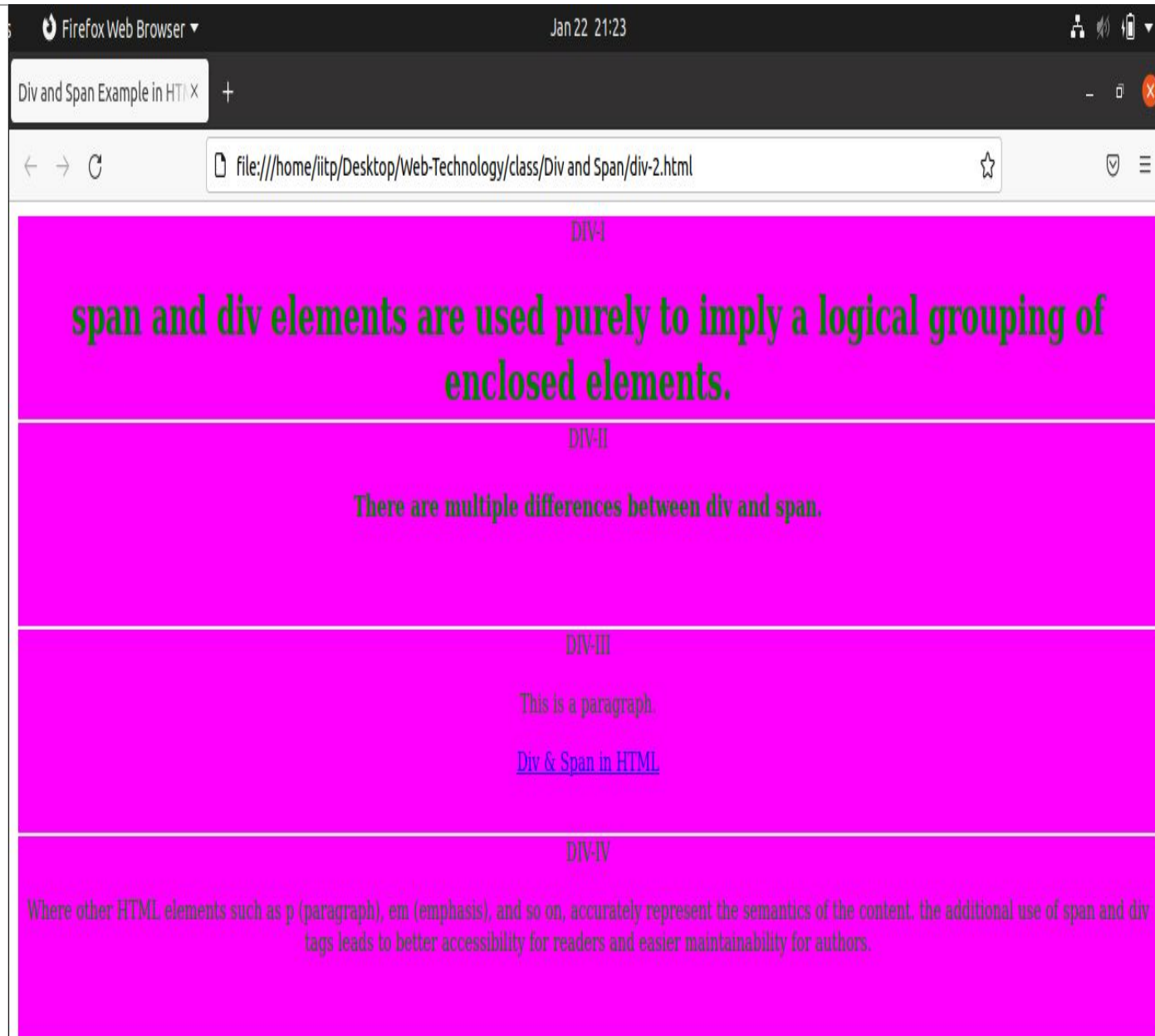
HTML Div Tag

```
<!DOCTYPE>
<html>
<head>
      <title>Div and Span Example in HTML</title>
<style>div {
      color: green;
      background-color: magenta;
      margin: 2px;
      font-size: 15px;
      text-align: center;
      height: 115px;}
</style></head><body>  <div>
    DIV-I
    <h1>span and div elements are used purely to imply a logical
grouping of enclosed elements.</h1> </div>
  <div>
    DIV-II
    <h3>There are multiple differences between div and span.</h3>
</div>
  <div>DIV-III  <p>This is a paragraph.</p>
    <a href="https://en.wikipedia.org/wiki/Div_and_span"> Div &
Span in HTML</a> </div> <div> DIV-IV
    <p> Where other HTML elements such as p (paragraph), em
(emphasis), and so on, accurately represent the semantics of the
content. the additional use of span and div tags leads to better
accessibility for readers and easier maintainability for authors.
</p>  </div></body></html>
```

HTML Span Tag

- The **<span>** tag is an inline container used to mark up a small portion of a document or text.

- Using the class or id property, the span element may be styled using CSS or handled using JavaScript.

> ❖ The <div> and <span> tag in HTML are similar to each other, with the exception that <div> is a block-level element while <span> is an inline element.
>
> ❖ The inline element does not start a new line and takes up the same amount of space as the content.

- span tags can be used for small segments of text, pictures, links, and other HTML components that can display inline with the surrounding content.

HTML Span Tag

```
<!DOCTYPE>
<html>
      <head>
            <title>Span Example</title>
      </head>
<body>
   <h2>Welcome To Cascaded Style Sheets</h2>

   <p><span style="background-color:lightblue">
      CSS Topics
      </span>
      CSS has a simple syntax and uses a number of English
keywords to specify the names of various style properties.
      <span style="color:purple;">
      Join
      </span>
      A style sheet consists of a list of rules.Each rule/rule-set
consists of one or more selectors, and a declaration block.
      <span style="background-color:pink;">In CSS</span>
selectors declare which part of the markup style applies to by
matching
      tags and attributes in the markup itself.
   </p>
</body>
</html>
```
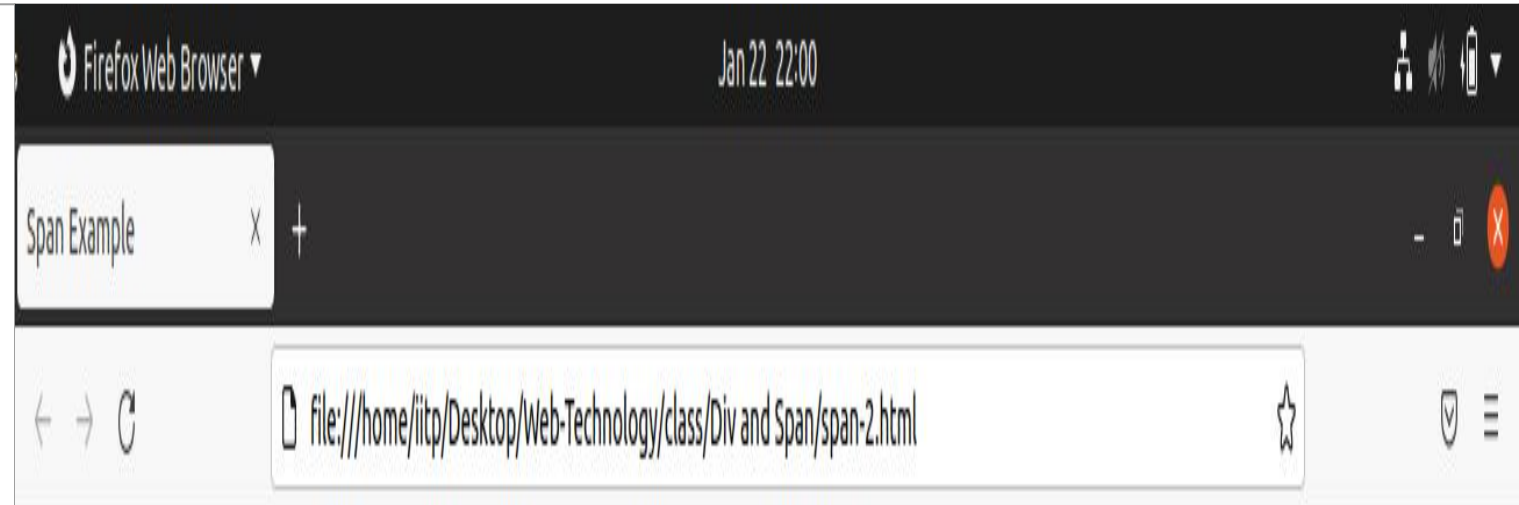
HTML Span Tag

```
<!DOCTYPE>
<html>
    <head>
        <title>Span Example</title>
    <style>
    body {text-align: center;}
    h2 {color: blueviolet;}
    </style>
    </head>
<body>
   <h2>Welcome To Cascaded Style Sheets</h2>
   <p><span style="background-color:lightblue">
    CSS Topics
    </span>
    CSS has a simple syntax and uses a number of English
keywords to specify the names of various style properties.
    <span style="color:purple;">
    Join
    </span>
    A style sheet consists of a list of rules.Each rule/rule-set
consists of one or more selectors, and a declaration block.
    <span style="background-color:pink;">In CSS</span>
selectors declare which part of the markup style applies to by
matching
    tags and attributes in the markup itself.
   </p></body></html>
```

<div> Vs. <span>

- This example below contains three <div> tags followed by three <span> tags.
- We've applied a unique background color to each element to show their size.
- Notice how divs occupy the whole width of the page, but span tags only occupy the space of their content.
- Additionally, each div element has a line break after its content, whereas span elements do not.

```
<!DOCTYPE>
<html>
<head><style>div {height: 50px;}
        .d1 {background-color: rgb(251, 112, 112);}
        .d2 {background-color: rgb(87, 87, 255);}
        .d3 {background-color: rgb(121, 255, 121);}
        .s1 {background-color: rgb(229, 255, 0);}
        .s2 {background-color: rgb(0, 234, 255);}
        .s3 {background-color: rgb(218, 147, 191);}
    </style></head>
<body>
    <div class="d1"> Text in < div > tag 1 </div>
    <div class="d2"> Text in < div > tag 2 </div>
    <div class="d3"> Text in < div > tag 3 </div>
    <span class="s1"> Text in < span > tag 1 </span>
    <span class="s2"> Text in < span > tag 2 </span>
    <span class="s3"> Text in < span > tag 3 </span>
</body></html>
```

Java Language Fundamentals: History

JAVA is a general purpose; object oriented programming language developed by James Gosling at Sun Microsystems, in 1991.

Year	Chain of Events
1989	Sun Microsystems, USA tried to develop a new language to manipulate consumer electronic devices [computers, laptops, smartphones, TV sets, tablets, game consoles, speakers and headphones, wearables, digital cameras, and VR (Virtual Reality) & AR (Augmented Reality) devices.]
1990	Three programmers from Sun Microsystems, namely, James Gosling, Patrick Naughton, and Ed. Frank tried to develop a language to manipulate consumer electronic devices
1991	Sun Microsystems developed a pure object oriented language called "Oak"
1992	Active Server Pages (ASP) was developed and its main aim is to introduce the language in internet [Active Server Pages (ASP) is Microsoft's first server-side scripting language and engine for dynamic web pages.]
1993	A team named Green Project Team, headed by James Gosling researched to launch this language on internet
1994	Sun Microsystems developed their own browser named as "Hot JAVA"
1995	Finally "Oak" was renamed as JAVA
1996	JDK 1.0 was launched
1999	Three Platforms of Java Introduced: 1. J2SE (Java 2 Standard Edition) - Used for standard applications 2. J2EE (Java 2 Enterprise Edition) - Used for Web applications 3. J2ME (Java 2 Micro Edition) - Used for mobile application, CDMA Operations, etc.

Motivation for Java

- In-built garbage-collection facilities

- Portable facilities

- Multithreading concept

- Platform Independence

- Abundant API, Multiple Open Source Libraries

It is used by some **9 million developers** and **it runs on around 7 billion devices** worldwide according to Oracle blogs.

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9.