Practical 8

AIM: Use of HTML to create a simple web page

MathML

- MathML (Mathematical Markup Language) is an XML-based markup language used to represent mathematical notations and formulas.
- It is designed to be compatible with XML and HTML, making it suitable for displaying math on webpages or in XML-based documents.
- Conceptually, MathML consists of two main strains of markup: Presentation markup is used to display mathematical expressions; and Content markup is used to convey mathematical meaning.
- These two strains, along with other external representations, can be combined using parallel markup.

Example:

Here's a simple example of MathML that represents the equation of a line:

Xml

```
<math xmlns="http://www.w3.org/1998/Math/MathML">

<mrow>

<mi>y</mi>

<mo>=</mo>

<mi>m</mi>

<mi>x</mi>

<mo>+</mo>

<mi>b</mi>

</mrow>

</math>
```

$$y = mx + b$$

In this example:

- **<math>:** *The root element that defines the MathML content*
- **<mrow>:** *Represents a row or sequence of mathematical expressions.*
- **<mi>:** *Represents a mathematical identifier (in this case, variables).*
- **<mo>:** *Represents an operator or symbol.*

This MathML code represents the equation of a line in slope-intercept form (y = mx+ b), where "m" and "b" are constants and "x" and "y" are variables.

To view this MathML example, you can use a MathML-enabled browser like Firefox, or you can try an online MathML rendering tool.

Copy and paste the MathML code into one of these environments, and you should see the equation of a line displayed.

Please note that MathML support may vary in different environments, so make sure you're using a MathML-capable platform to view the example.

Example:

```
<math xmlns = "http://www.w3.org/1998/Math/MathML">
<mrow>
<msup><mi>(</mi><mi>x</mi><mo>+</mo><mn>2</mn>
<msup><mi>)</mi><mn>2</mn></msup>
<mo>=</mo>
<msup> <mi>x</mi> <mn>2</mn> </msup>
<mo>+</mo>
<mrow>
```

<mn>4</mn>
<mi>x</mi>
</mrow>
<mo>+</mo>
<mn>4</mn>
</mrow>
<mo>=</mo>
<mn>0</mn>
</mrow>
</math>

$$(x+2)^2 = x^2 + 4x + 4$$

Example:

<math xmins="http://www.w3.org/1998/Math/MathML">

<mo>[</mo><mtable>

<mrow>

<mi> 1   </mi>

<mi> 2   </mi>

<mi> 3   </mi>

<mi> </mi>

</mrow>

<mrow>

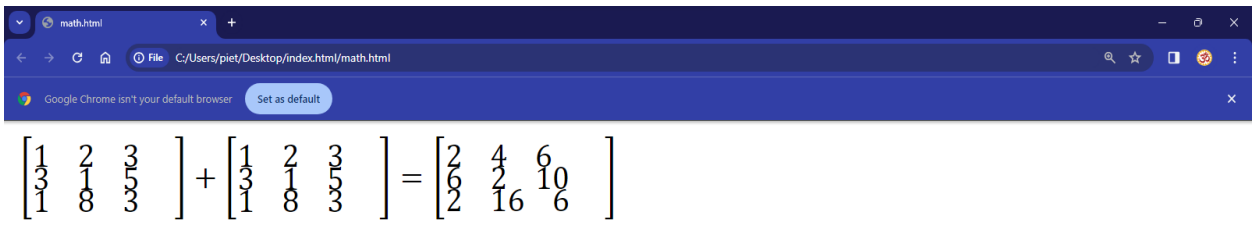
<mi> 3   </mi>

<mi> 1   </mi>

```
      <mi> 5    </mi>
      <mi> </mi>
   </mrow>
   <mrow>

      <mi> 1     </mi>
      <mi> 8    </mi>
      <mi> 3    </mi>
      <mi> </mi>
   </mrow>
</mtable><mo>]</mo>
<mo>+</mo>
<mo>[</mo>  <mtable>
   <mrow>

      <mi> 1    </mi>
      <mi> 2    </mi>
      <mi> 3    </mi>
      <mi> </mi>
   </mrow>
   <mrow>
```

```
        <mi> 3    </mi>
        <mi> 1    </mi>
        <mi> 5    </mi>
        <mi> </mi>
    </mrow>
    <mrow>

        <mi> 1    </mi>
        <mi> 8    </mi>
        <mi> 3    </mi>
        <mi> </mi>
    </mrow>
</mtable><mo>]</mo>
<mo>=</mo>
<mo>[</mo>
<mtable>
    <mrow>

        <mi> 2    </mi>
        <mi> 4     </mi>
        <mi> 6    </mi>
        <mi> </mi>
```

```
        </mrow>
        <mrow>

            <mi> 6 &amp;nbsp;&amp;nbsp;&amp;nbsp;</mi>
            <mi> 2 &amp;nbsp;&amp;nbsp;&amp;nbsp;</mi>
            <mi> 10 &amp;nbsp;&amp;nbsp;&amp;nbsp;</mi>
            <mi>&amp;nbsp;</mi>
        </mrow>
        <mrow>

            <mi> 2 &amp;nbsp;&amp;nbsp;&amp;nbsp;</mi>
            <mi> 16 &amp;nbsp;&amp;nbsp;&amp;nbsp;</mi>
            <mi> 6 &amp;nbsp;&amp;nbsp;&amp;nbsp;</mi>
            <mi>&amp;nbsp;</mi>
        </mrow>
    </mtable><mo>]</mo>
</math>
```



$$\begin{bmatrix} 1 & 2 & 3 \\ 3 & 1 & 5 \\ 1 & 8 & 3 \end{bmatrix} + \begin{bmatrix} 1 & 2 & 3 \\ 3 & 1 & 5 \\ 1 & 8 & 3 \end{bmatrix} = \begin{bmatrix} 2 & 4 & 6 \\ 6 & 2 & 10 \\ 2 & 16 & 6 \end{bmatrix}$$

In this example:

- ***align*** *– To specify the vertical alignment of the table . Valid values are: axis, baseline, bottom, center, top. Default is axis.*
- ***class, id, style*** *– Used with stylesheets.*
- ***columnalign*** *– To specify the horizontal alignment of the cells. Valid values are: left, center and right. Default is center.*
- ***columnlines*** *– To specify column borders. Valid values are: none, solid and dashed. Default is none.*
- ***columnspacing*** *– To specify the space between table columns.*
- ***displaystyle*** *– If true more vertical space is used for displayed equations , if false, a more compact layout is used to display formulas.*
- ***frame*** *– To specify borders of the entire table. Valid values are: none, solid and dashed. Default is none.*
- ***framespacing*** *– To specify additional space added between the table and frame.*
- ***href*** *– To specify a hyperlink to a specified uri.*
- ***mathbackground*** *– To specify the background color. Valid formats are #rgb, #rrggbb and html color names.*
- **mathcolor** *– To specify the text color. Valid formats are #rgb, #rrggbb and html color names.*
- ***rowalign*** *– To specify vertical alignment of the cells. Valid values are axis, baseline, bottom, center and top. Default is baseline*
- ***rowlines*** *– To specify row borders. Valid values are: none, solid and dashed. Default is none.*
- ***width*** *– To specify width of the entire table.*