SVG - PATTERNS

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SVG uses <pattern> element to define patterns. Patterns are defined using <pattern> element and are used to fill graphics elements in tiled fashion.

Declaration

Following is the syntax declaration of **<pattern>** element. We've shown main attributes only.

```
<pattern
   patternUnits="units to define x,y, width and height attributes."
   patternContentUnits ="units to define co-ordinate system of contents of pattern"
   patternTransform = "definition of an additional transformation from the pattern
coordinate system onto the target coordinate system"

   x="x-axis co-ordinate"
   y="y-axis co-ordinate"

   width="length"
   height="length"

   preserveAspectRatio="to preserve width/height ratio of original content"
   xlink:href="reference to another pattern" >
</pattern>
```

Attributes

Sr.No.	Name & Description
1	**patternUnits** − units to define patterns effect region. It specifies the coordinate system for the various length values within the pattern and for the attributes defining the pattern subregion. If patternUnits="userSpaceOnUse", values represent values in the current user coordinate system in place at the time when the 'pattern' element is used. If patternUnits="objectBoundingBox", values represent values in fractions or percentages of the bounding box on the referencing element in place at the time when the 'pattern' element is used. Default is userSpaceOnUse.
2	**patternContentUnits** − units to define pattern content region. It specifies the coordinate system for the various length values within the pattern and for the attributes defining the pattern subregion. If patternContentUnits="userSpaceOnUse", values represent values in the current user coordinate system in place at the time when the 'pattern' element is used. If patternContentUnits="objectBoundingBox", values represent values in fractions or percentages of the bounding box on the referencing element in place at the time when the 'pattern' element is used. Default is userSpaceOnUse.
3	**x** − x-axis co-ordinate of the pattern bounding box. Defeault is 0.
4	**y** − y-axis co-ordinate of the pattern bounding box. Default is 0.
5	**width** − width of the pattern bounding box. Default is 0.
6	**height** − height of the pattern bounding box. Default is 0.
7	**preserveAspectRatio** - to preserve width/height ratio of original content.
8	**xlink:href** − used to refer to another pattern.

Example

testSVG.htm

```
<html>
   <title>SVG Pattern</title>
   <body>
      <h1>Sample SVG Pattern</h1>

      <svg width="800" height="800">

         <defs>
            <pattern
               x="0" y="0" width="100" height="100"
               viewBox="0 0 4 4" >
               <path d="M 0 0 L 3 0 L 1.5 3 z" fill="blue" stroke="green" />
            </pattern>
         </defs>

         <g>
            <text x="30" y="50" >Using Pattern (Triangles): </text>
            <rect x="100" y="100" width="300" height="300" stroke="green"
            stroke-width="3" fill="url(#pattern1)" />
         </g>

      </svg>

   </body>
</html>
```

- One <pattern> element defined as pattern1.
- In pattern, a viewbox is defined and a path which is to be used as pattern is defined.
- in rect element, in fill attribute, url of the pattern is specified to fill the rectangle with pattern created earlier.

Output

Open textSVG.htm in Chrome web browser. You can use Chrome/Firefox/Opera to view SVG image directly without any plugin. Internet Explorer 9 and higher also supports SVG image rendering.