

# HTML5 CANVAS - COMPOSITION

[http://www.tutorialspoint.com/html5/canvas\\_composition.htm](http://www.tutorialspoint.com/html5/canvas_composition.htm)

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HTML5 canvas provides compositing attribute **globalCompositeOperation** which affect all the drawing operations.

We can draw new shapes behind existing shapes and mask off certain areas, clear sections from the canvas using globalCompositeOperation attribute as shown below in the example.

There are following values which can be set for globalCompositeOperation –

Attribute	Description
source-over	This is the default setting and draws new shapes on top of the existing canvas content.
source-in	The new shape is drawn only where both the new shape and the destination canvas overlap. Everything else is made transparent.
source-out	The new shape is drawn where it doesn't overlap the existing canvas content.
source-atop	The new shape is only drawn where it overlaps the existing canvas content.
lighter	Where both shapes overlap the color is determined by adding color values.
xor	Shapes are made transparent where both overlap and drawn normal everywhere else.
destination-over	New shapes are drawn behind the existing canvas content.
destination-in	The existing canvas content is kept where both the new shape and existing canvas content overlap. Everything else is made transparent.
destination-out	The existing content is kept where it doesn't overlap the new shape.
destination-atop	The existing canvas is only kept where it overlaps the new shape. The new shape is drawn behind the canvas content.
darker	Where both shapes overlap the color is determined by subtracting color values.

## Example

Following is a simple example which makes use of globalCompositeOperation attribute to create all possible compositions –

```
<!DOCTYPE HTML>
<html>
  <head>

    <script type="text/javascript">
      var compositeTypes = [
        'source-over', 'source-in', 'source-out', 'source-atop',
        'destination-over', 'destination-in', 'destination-out',
        'destination-atop', 'lighter', 'darker', 'copy', 'xor'
      ];

      function drawShape(){
        for (i=0;i<compositeTypes.length;i++){
```

```

        var label = document.createTextNode(compositeTypes[i]);
        document.getElementById('lab'+i).appendChild(label);
        var ctx = document.getElementById('tut'+i).getContext('2d');

        // draw rectangle
        ctx.fillStyle = "#FF3366";
        ctx.fillRect(15,15,70,70);

        // set composite property
        ctx.globalCompositeOperation = compositeTypes[i];

        // draw circle
        ctx.fillStyle = "#0066FF";
        ctx.beginPath();
        ctx.arc(75,75,35,0,Math.PI*2,true);
        ctx.fill();
    }
}
</script>
</head>

<body onload="drawShape();">
    <table border="1" align="center">
        <tr>
            <td><canvas ></canvas><br/>
                <label ></label>
            </td>

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</body>
</html>
```

The above example would produce following result –

