Ninecolors: Select Colors with Proper WCAG Color Contrast

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Version 2022D (2022-02-13)

1 LaTeX2 Colors with Medium Saturation

Ninecolors package carefully selects and defines 9 colors for 13 hues each. All colors with the same suffix number have equal luminance level. Also color black is of level 0, and color white is of level 10.

<table>
<thead>
<tr>
<th>Gray</th>
<th>Red</th>
<th>Brown</th>
<th>Yellow</th>
<th>Olive</th>
<th>Green</th>
<th>Teal</th>
<th>Cyan</th>
<th>Azure</th>
<th>Blue</th>
<th>Violet</th>
<th>Magenta</th>
<th>Purple</th>
</tr>
</thead>
<tbody>
<tr>
<td>gray1</td>
<td>red1</td>
<td>brown1</td>
<td>yellow1</td>
<td>olive1</td>
<td>green1</td>
<td>teal1</td>
<td>cyan1</td>
<td>azure1</td>
<td>blue1</td>
<td>violet1</td>
<td>magenta1</td>
<td>purple1</td>
</tr>
<tr>
<td>gray2</td>
<td>red2</td>
<td>brown2</td>
<td>yellow2</td>
<td>olive2</td>
<td>green2</td>
<td>teal2</td>
<td>cyan2</td>
<td>azure2</td>
<td>blue2</td>
<td>violet2</td>
<td>magenta2</td>
<td>purple2</td>
</tr>
<tr>
<td>gray3</td>
<td>red3</td>
<td>brown3</td>
<td>yellow3</td>
<td>olive3</td>
<td>green3</td>
<td>teal3</td>
<td>cyan3</td>
<td>azure3</td>
<td>blue3</td>
<td>violet3</td>
<td>magenta3</td>
<td>purple3</td>
</tr>
<tr>
<td>gray4</td>
<td>red4</td>
<td>brown4</td>
<td>yellow4</td>
<td>olive4</td>
<td>green4</td>
<td>teal4</td>
<td>cyan4</td>
<td>azure4</td>
<td>blue4</td>
<td>violet4</td>
<td>magenta4</td>
<td>purple4</td>
</tr>
<tr>
<td>gray5</td>
<td>red5</td>
<td>brown5</td>
<td>yellow5</td>
<td>olive5</td>
<td>green5</td>
<td>teal5</td>
<td>cyan5</td>
<td>azure5</td>
<td>blue5</td>
<td>violet5</td>
<td>magenta5</td>
<td>purple5</td>
</tr>
<tr>
<td>gray6</td>
<td>red6</td>
<td>brown6</td>
<td>yellow6</td>
<td>olive6</td>
<td>green6</td>
<td>teal6</td>
<td>cyan6</td>
<td>azure6</td>
<td>blue6</td>
<td>violet6</td>
<td>magenta6</td>
<td>purple6</td>
</tr>
<tr>
<td>gray7</td>
<td>red7</td>
<td>brown7</td>
<td>yellow7</td>
<td>olive7</td>
<td>green7</td>
<td>teal7</td>
<td>cyan7</td>
<td>azure7</td>
<td>blue7</td>
<td>violet7</td>
<td>magenta7</td>
<td>purple7</td>
</tr>
<tr>
<td>gray8</td>
<td>red8</td>
<td>brown8</td>
<td>yellow8</td>
<td>olive8</td>
<td>green8</td>
<td>teal8</td>
<td>cyan8</td>
<td>azure8</td>
<td>blue8</td>
<td>violet8</td>
<td>magenta8</td>
<td>purple8</td>
</tr>
<tr>
<td>gray9</td>
<td>red9</td>
<td>brown9</td>
<td>yellow9</td>
<td>olive9</td>
<td>green9</td>
<td>teal9</td>
<td>cyan9</td>
<td>azure9</td>
<td>blue9</td>
<td>violet9</td>
<td>magenta9</td>
<td>purple9</td>
</tr>
</tbody>
</table>

By simply choosing two colors in the above list, which differ in level by at least 5, as foreground and background colors, you will get proper WCAG Color Contrast.

The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.
The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.
The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.
The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.

If you need to select more contrasting foreground and background colors, which may have other hues, you could visit WCAG Color Contrast Tool page which is designed by the first author.

*https://github.com/lvjr/ninecolors
2 LaTeX2 Colors with Low Saturation

You can change the saturation of colors by \NineColors command. By default saturation=medium.

Colors in the remaining part of the page have been changed by \NineColors{saturation=low}.

Ninecolors package carefully selects and defines 9 colors for 13 hues each. All colors with the same suffix number have equal luminance level. Also color black is of level 0, and color white is of level 10.

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3 \LaTeX{} Colors with High Saturation

You can change the saturation of colors by \texttt{\NineColors} command. By default \texttt{saturation=medium}.

Colors in the remaining part of the page have been changed by \texttt{\NineColors\{saturation=high\}}.

\texttt{Ninecolors} package carefully selects and defines 9 colors for 13 hues each. All colors with the same suffix number have equal luminance level. Also color black is of level 0, and color white is of level 10.

\begin{verbatim}
gray1  red1  brown1  yellow1  olive1  green1  teal1  cyan1  azure1  blue1  violet1  magenta1  purple1
gray2  red2  brown2  yellow2  olive2  green2  teal2  cyan2  azure2  blue2  violet2  magenta2  purple2
gray3  red3  brown3  yellow3  olive3  green3  teal3  cyan3  azure3  blue3  violet3  magenta3  purple3
gray4  red4  brown4  yellow4  olive4  green4  teal4  cyan4  azure4  blue4  violet4  magenta4  purple4
gray5  red5  brown5  yellow5  olive5  green5  teal5  cyan5  azure5  blue5  violet5  magenta5  purple5
gray6  red6  brown6  yellow6  olive6  green6  teal6  cyan6  azure6  blue6  violet6  magenta6  purple6
gray7  red7  brown7  yellow7  olive7  green7  teal7  cyan7  azure7  blue7  violet7  magenta7  purple7
gray8  red8  brown8  yellow8  olive8  green8  teal8  cyan8  azure8  blue8  violet8  magenta8  purple8
gray9  red9  brown9  yellow9  olive9  green9  teal9  cyan9  azure9  blue9  violet9  magenta9  purple9
gray1  red1  brown1  yellow1  olive1  green1  teal1  cyan1  azure1  blue1  violet1  magenta1  purple1
gray2  red2  brown2  yellow2  olive2  green2  teal2  cyan2  azure2  blue2  violet2  magenta2  purple2
gray3  red3  brown3  yellow3  olive3  green3  teal3  cyan3  azure3  blue3  violet3  magenta3  purple3
gray4  red4  brown4  yellow4  olive4  green4  teal4  cyan4  azure4  blue4  violet4  magenta4  purple4
gray5  red5  brown5  yellow5  olive5  green5  teal5  cyan5  azure5  blue5  violet5  magenta5  purple5
gray6  red6  brown6  yellow6  olive6  green6  teal6  cyan6  azure6  blue6  violet6  magenta6  purple6
gray7  red7  brown7  yellow7  olive7  green7  teal7  cyan7  azure7  blue7  violet7  magenta7  purple7
gray8  red8  brown8  yellow8  olive8  green8  teal8  cyan8  azure8  blue8  violet8  magenta8  purple8
gray9  red9  brown9  yellow9  olive9  green9  teal9  cyan9  azure9  blue9  violet9  magenta9  purple9
\end{verbatim}

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4 LaTeX3 Colors for Fun

If you are using a LaTeX3 release not older than 2021-07-12, Ninecolors package will define LaTeX3 colors of the same names for you.

For example, you can change the color of drawing operations by \texttt{\color-fill:n \{color expression\}} command for fills, \texttt{\color-stroke:n \{color expression\}} command for strokes.