

Hexadecimal

A photograph of a computer setup on a wooden desk. In the foreground, a silver and blue wired computer mouse is prominent, with a red light on its left side. Behind it is a white computer keyboard. To the right, a black computer speaker with a green light is visible. A clear pen lies on the desk in front of the mouse. A semi-transparent grey rectangular box is overlaid on the upper portion of the image, containing the word 'Hexadecimal' in blue text.

Web Design by Mark Gillan

Colour Names

- As previously mentioned, in the previous examples the colours were coded using English language, i.e. “yellow”, “green” etc. Although the browser might understand common colour names it will not identify more specific colours. There may be different representations of the named colours across differing web browsers and platforms
- There are 16 colours available by name:
aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white, and yellow
- For accurate colour selection, hexadecimal codes should be used (example: 00ff33 which is the hexadecimal code for a light green):

```
<body bgcolor="00ff33">
```



RGB Colour System

- The colour is built up by using values for each of the main colours: Red, Green, Blue ... RGB
- Any colour can be made by mixing varying amounts of RGB, it is known as an additive RGB colour system.
Starting at Black
- The decimal system ranges from 0 to 255 for each of the three colours, separated by a comma
- Black would be shown in decimal as: 0,0,0
- White in decimal is shown as: 255,255,255



Hexadecimal

- Web pages use the hexadecimal system for the RGB colour system but instead of 0 to 255, hexadecimal would use 00 to FF
- Decimal uses 10 digits: 0,1,2,3,4,5,6,7,8,9
- Hexadecimal 16: 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F



Hexadecimal – Black and White

- 00 is obviously no colour intensity
- FF is full colour intensity
- So, #000000 is ... Black (no additive of colour)
- And, #FFFFFF is ... White (full additives of RGB)
- Mixing all colours (Red, Green, Blue) together provides white light to the eye. No colours provides black – no light reception for the eye



Further examples

- What would the following code represent?
#FF0000 ... It is full Red
- What about this one?
#00FF00 ... This one is full Green
- What about another?
#0000FF ... Definitely Blue
- What about some mixing?
#FFFF00 ... Red and Green equals ... Yellow
- What about some more mixing?
#00FFFF ... Green plus Blue equals ... Cyan
- What about full red plus full blue?
#FF00FF ... Well, this would provide ... Magenta



Web Safe Colours

- Years ago when computer dealt with a maximum of 256 colours, it was decided to standardise the colours to ensure correct representation
- 40 colours had been 'reserved' for the system
- Leaving 216 safe colours, these continue to be known within web design...web safe colours that all browsers accept as being standard
- Although modern computers handle millions of colours, the web safe colour list remains a standard for every web designer



Web Safe Colour Chart

330000	333300	336600	339900	33CC00	33FF00	66FF00	66CC00	669900	666600	663300	660000	FF0000	FF3300	FF6600	FF9900	FFCC00	FFFF00
330033	333333	336633	339933	33CC33	33FF33	66FF33	66CC33	669933	666633	663333	660033	FF0033	FF3333	FF6633	FF9933	FFCC33	FFFF33
330066	333366	336666	339966	33CC66	33FF66	66FF66	66CC66	669966	666666	663366	660066	FF0066	FF3366	FF6666	FF9966	FFCC66	FFFF66
330099	333399	336699	339999	33CC99	33FF99	66FF99	66CC99	669999	666699	663399	660099	FF0099	FF3399	FF6699	FF9999	FFCC99	FFFF99
3300CC	3333CC	3366CC	3399CC	33CCCC	33FFCC	66FFCC	66CCCC	6699CC	6666CC	6633CC	6600CC	FF00CC	FF33CC	FF66CC	FF99CC	FFCCCC	FFFFCC
3300FF	3333FF	3366FF	3399FF	33CCFF	33FFFF	66FFFF	66CCFF	6699FF	6666FF	6633FF	6600FF	FF00FF	FF33FF	FF66FF	FF99FF	FFCCFF	FFFFFF
0000FF	0033FF	0066FF	0099FF	00CCFF	00FFFF	99FFFF	99CCFF	9999FF	9966FF	9933FF	9900FF	CC00FF	CC33FF	CC66FF	CC99FF	CCCCFF	CCFFFF
0000CC	0033CC	0066CC	0099CC	00CCCC	00FFCC	99FFCC	99CCCC	9999CC	9966CC	9933CC	9900CC	CC00CC	CC33CC	CC66CC	CC99CC	CCCCCC	CCFFCC
000099	003399	006699	009999	00CC99	00FF99	99FF99	99CC99	999999	996699	993399	990099	CC0099	CC3399	CC6699	CC9999	CCCC99	CCFF99
000066	003366	006666	009966	00CC66	00FF66	99FF66	99CC66	999966	996666	993366	990066	CC0066	CC3366	CC6666	CC9966	CCCC66	CCFF66
000033	003333	006633	009933	00CC33	00FF33	99FF33	99CC33	999933	996633	993333	990033	CC0033	CC3333	CC6633	CC9933	CCCC33	CCFF33
000000	003300	006600	009900	00CC00	00FF00	99FF00	99CC00	999900	996600	993300	990000	CC0000	CC3300	CC6600	CC9900	CCCC00	CCFF00



Example of use

Notepad code

A screenshot of a Notepad window titled 'index - Notepad'. The menu bar includes File, Edit, Format, View, and Help. The text area contains the following HTML code:

```
<html>
<head>
  <title> learn website design</title>
</head>
<body bgcolor="FFFFCC" text="FF0000">
The background colour will be a light yellow and this text will be a pure red
</body>
</html>
```

Web Browser appearance

