Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

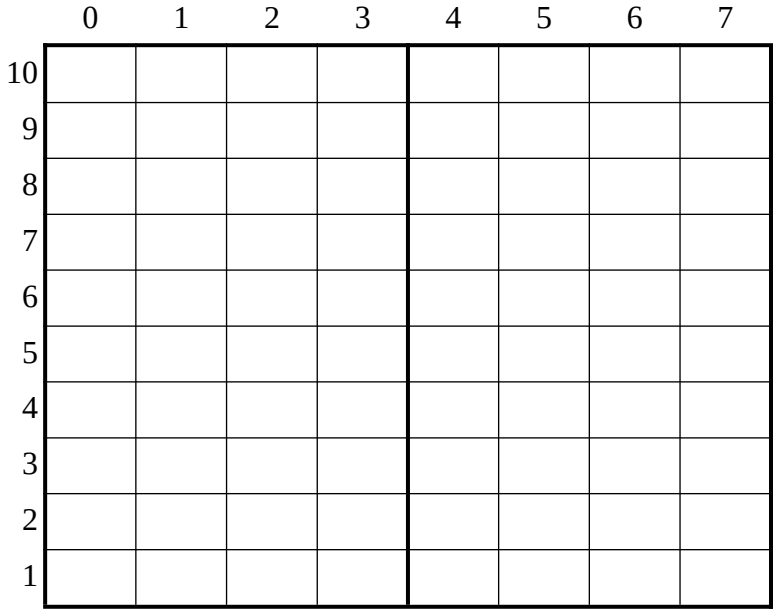
Worksheet: Reading a Bitmap File

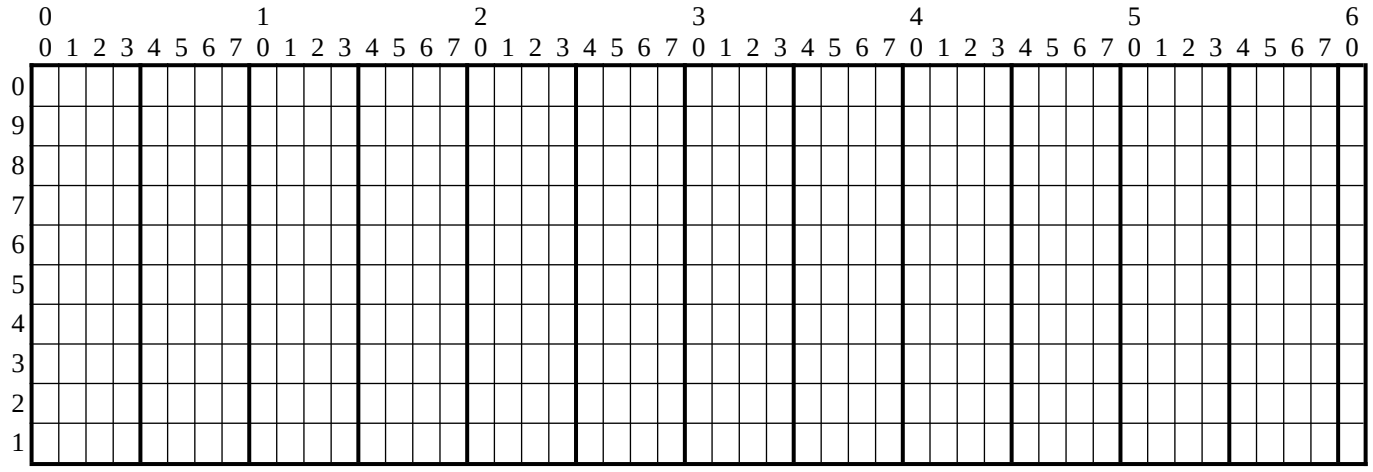
©2025 Chris Nielsen – *www.nielsenedu.com*

`Alisa.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	FF	00	00	C0	C0
0000090	C0	00	00	00	00	00	00	00	00	00	01	13	8E	78	F0	00
00000A0	00	00	01	11	04	05	10	00	00	00	01	11	04	38	F0	00
00000B0	00	00	55	F1	04	40	15	55	00	00	29	11	0C	38	E2	8A
00000C0	00	00	01	11	00	00	00	00	00	00	00	E3	04	00	00	00
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

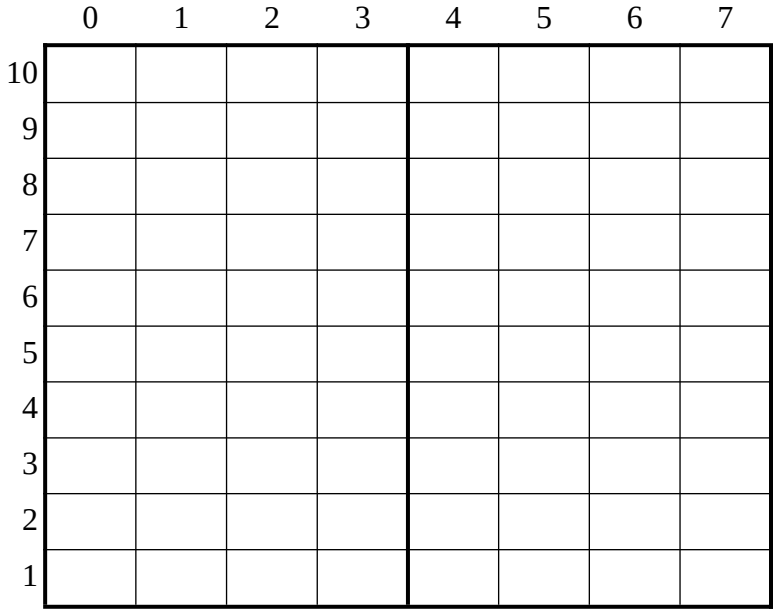
Worksheet: Reading a Bitmap File

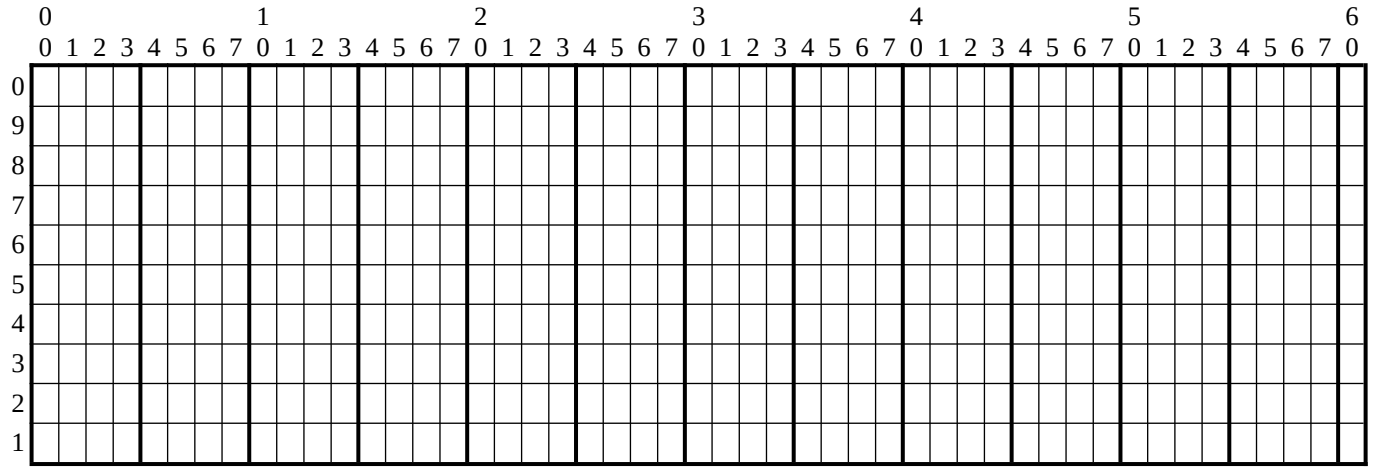
©2025 Chris Nielsen – *www.nielsenedu.com*

`Andy.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	80	80	80	00	C0	C0
0000090	C0	00	00	00	00	00	00	00	00	00	38	04	51	3C	E0	0E
00000A0	00	00	20	04	51	44	10	02	00	00	20	04	51	44	F0	02
00000B0	00	00	21	F7	D9	4D	17	C2	00	00	20	04	56	35	10	02
00000C0	00	00	20	04	40	04	00	02	00	00	38	03	80	04	00	0E
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.		

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

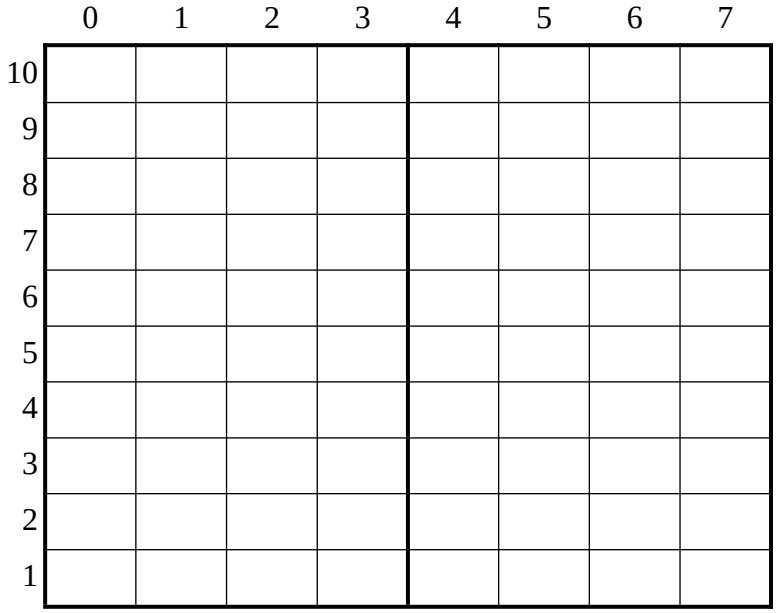
Worksheet: Reading a Bitmap File

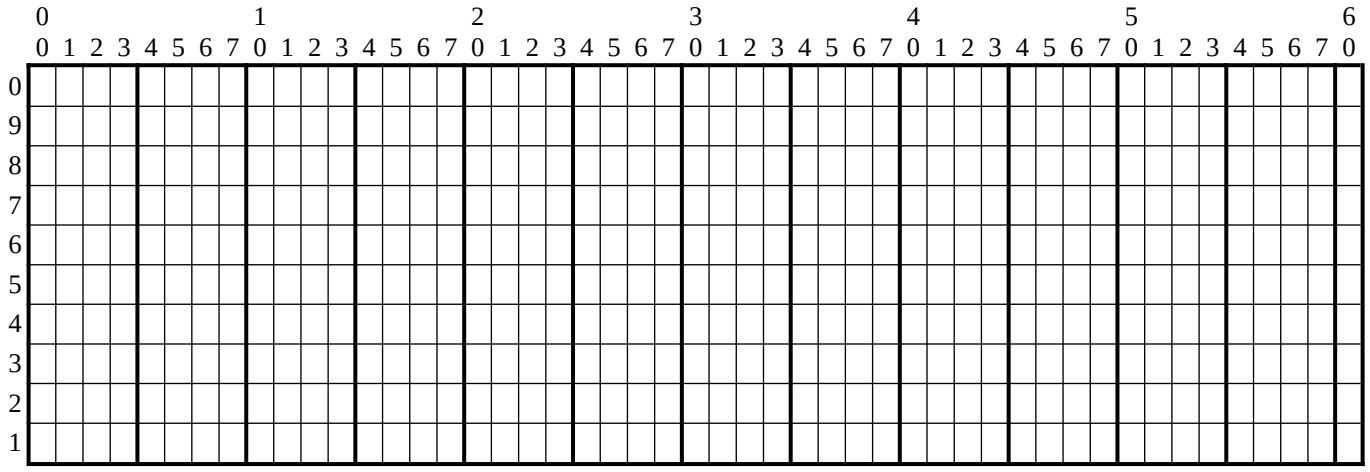
©2025 Chris Nielsen – *www.nielsenedu.com*

`Bill.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	80	80	80	00	00	80
0000090	00	00	00	00	00	00	00	00	00	00	00	27	8E	38	E2	00
00000A0	00	00	28	44	44	10	41	0A	00	00	10	84	44	10	40	84
00000B0	00	00	7C	87	84	10	40	9F	00	00	10	84	4C	10	40	84
00000C0	00	00	28	44	40	10	41	0A	00	00	00	27	84	30	C2	00
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.		

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

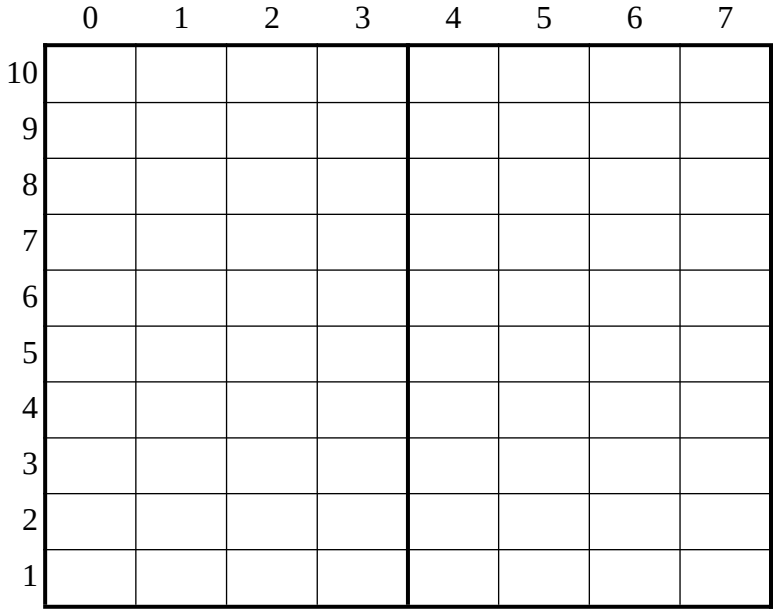
Worksheet: Reading a Bitmap File

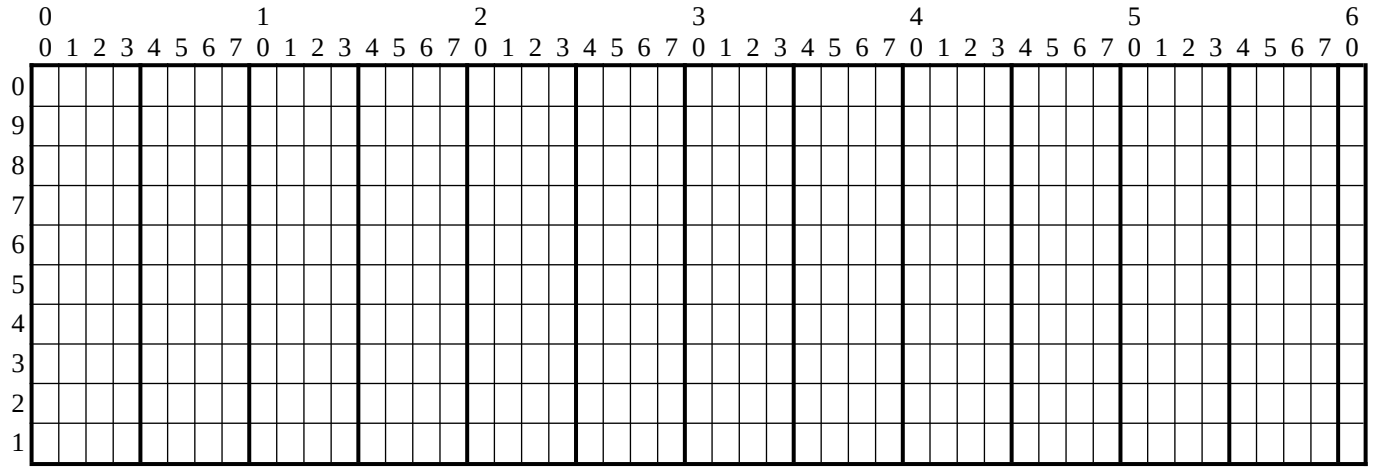
©2025 Chris Nielsen – *www.nielsenedu.com*

`Chloe.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	80	80	00	00	00	FF
0000090	00	00	00	00	00	00	00	00	00	00	08	E4	4E	38	E2	00
00000A0	00	00	11	14	44	45	01	00	00	00	11	04	44	45	F1	00
00000B0	00	00	21	06	44	45	10	9F	00	00	11	05	84	38	E1	00
00000C0	00	00	11	14	04	00	01	00	00	00	08	E4	0C	00	02	00
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

Worksheet: Reading a Bitmap File

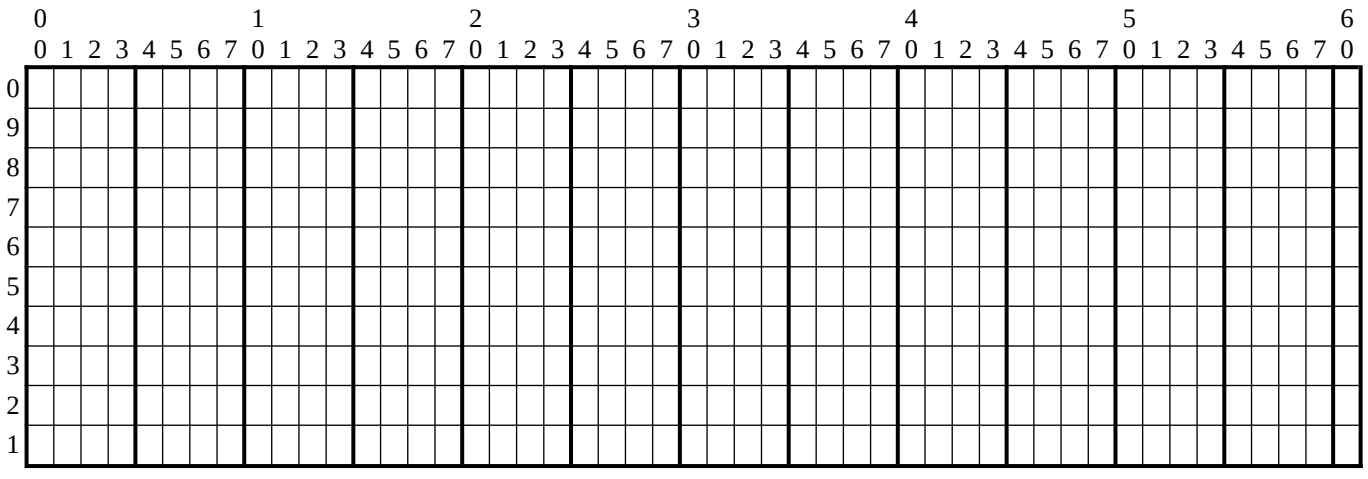
©2025 Chris Nielsen – *www.nielsenedu.com*

`Dalton.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	80	80	00	FF	00
0000090	FF	00	00	00	00	00	00	00	00	00	01	E3	CE	18	E4	40
00000A0	00	00	01	14	44	25	14	40	00	00	41	13	C4	21	14	41
00000B0	00	00	21	10	44	21	16	42	00	00	11	13	84	70	E5	84
00000C0	00	00	09	10	04	20	00	08	00	00	05	E0	0C	20	00	10
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number

	0	1	2	3	4	5	6	7
10								
9								
8								
7								
6								
5								
4								
3								
2								
1								



Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.		

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

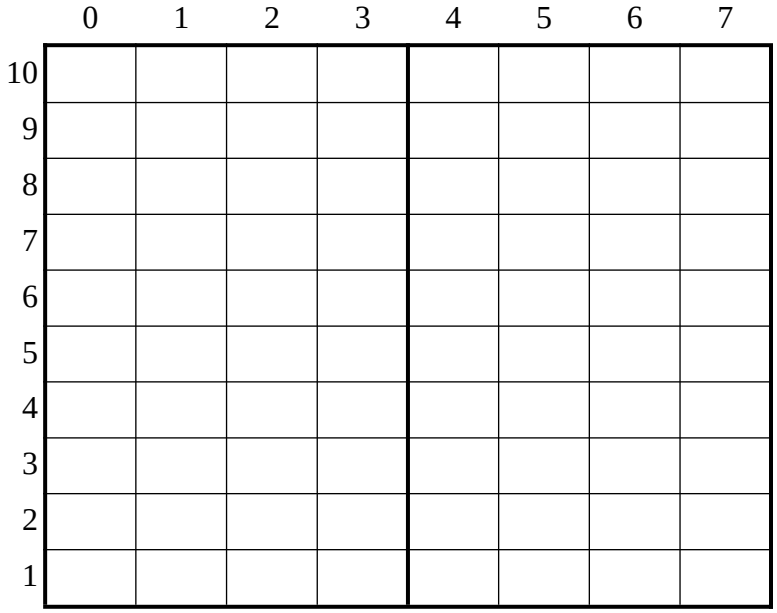
Worksheet: Reading a Bitmap File

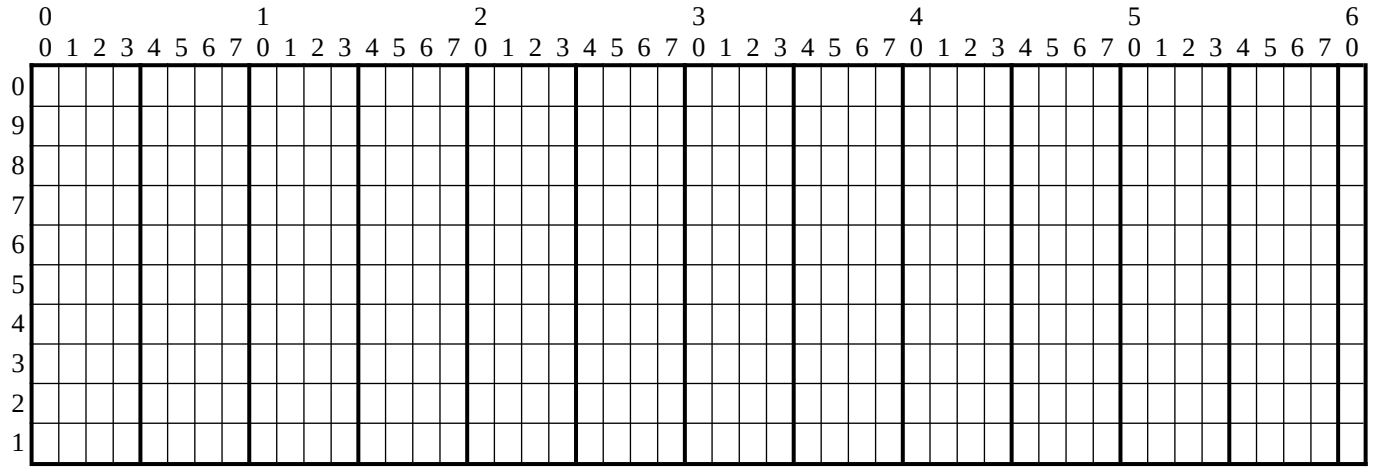
©2025 Chris Nielsen – *www.nielsenedu.com*

`David.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	80	80	80	00	FF	FF
0000090	00	00	00	00	00	00	00	00	00	00	28	27	8F	10	E3	C8
00000A0	00	00	28	44	51	28	44	44	00	00	7C	84	4F	44	44	42
00000B0	00	00	28	84	41	44	44	C2	00	00	7C	84	4E	44	C3	42
00000C0	00	00	28	44	40	00	00	44	00	00	28	27	80	00	40	48
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

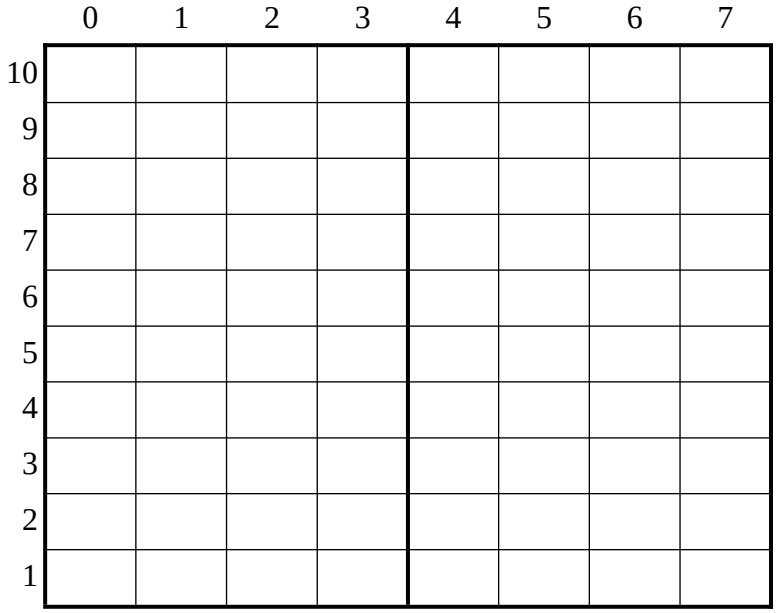
Worksheet: Reading a Bitmap File

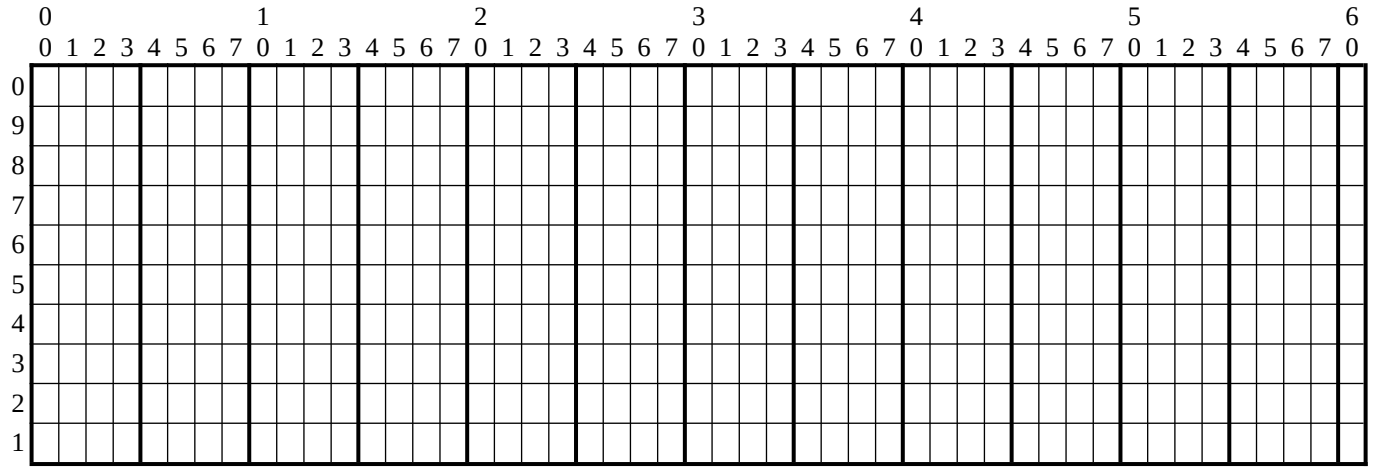
©2025 Chris Nielsen – *www.nielsenedu.com*

`Diego.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	80	00	00	00	00	00
0000090	80	00	00	00	00	00	00	00	00	00	09	E3	8E	38	E2	0A
00000A0	00	00	11	11	10	05	11	0A	00	00	21	11	1F	3D	10	9F
00000B0	00	00	21	11	11	45	10	8A	00	00	21	13	0E	44	E0	9F
00000C0	00	00	11	10	00	3C	01	0A	00	00	09	E1	00	00	02	0A
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.		

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

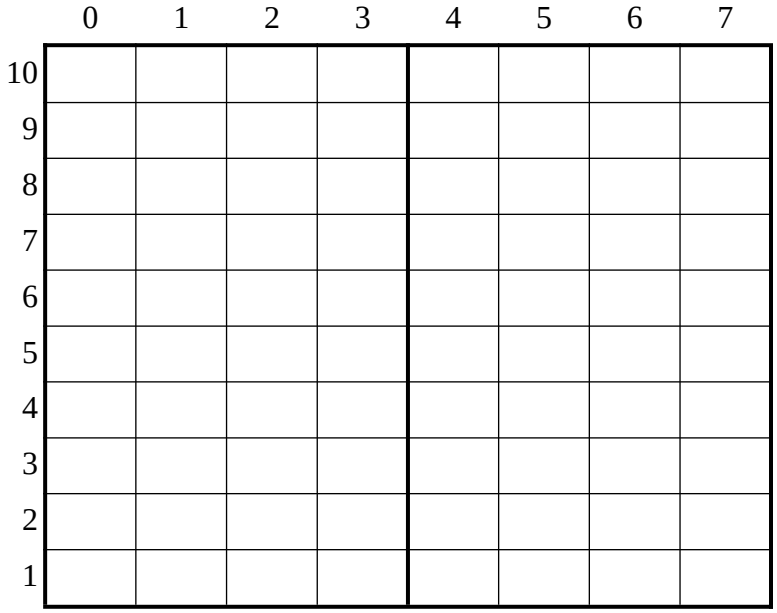
Worksheet: Reading a Bitmap File

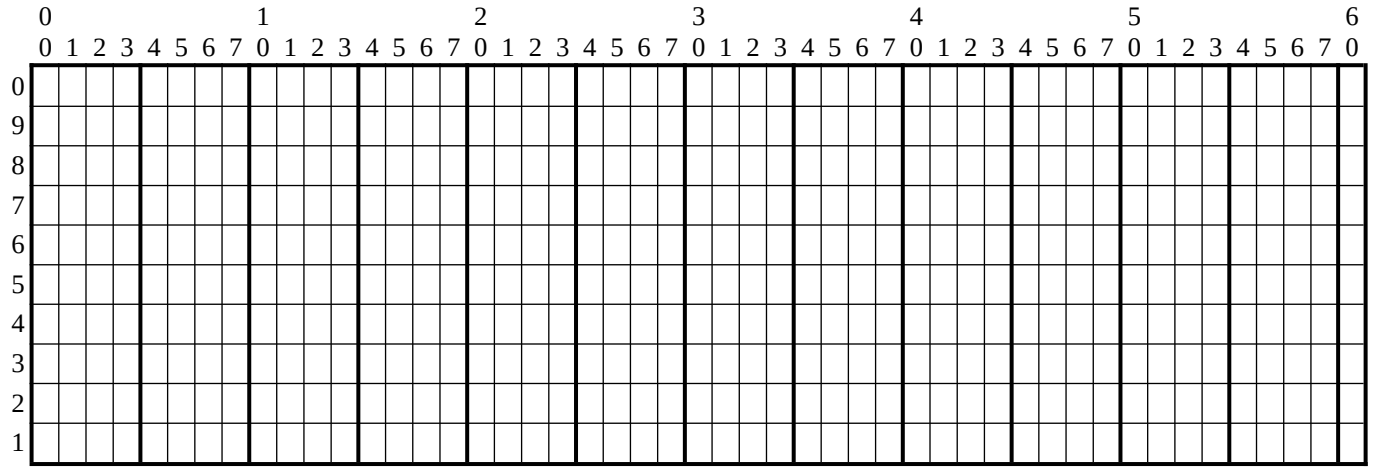
©2025 Chris Nielsen – *www.nielsenedu.com*

`Erek.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	80	00	80	00	00	00
0000090	80	00	00	00	00	00	00	00	00	00	08	47	D0	39	21	08
00000A0	00	00	10	44	10	41	41	04	00	00	10	44	10	7D	81	04
00000B0	00	00	20	47	99	45	41	02	00	00	10	44	16	39	21	04
00000C0	00	00	10	44	00	01	01	04	00	00	08	47	C0	01	01	08
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

Worksheet: Reading a Bitmap File

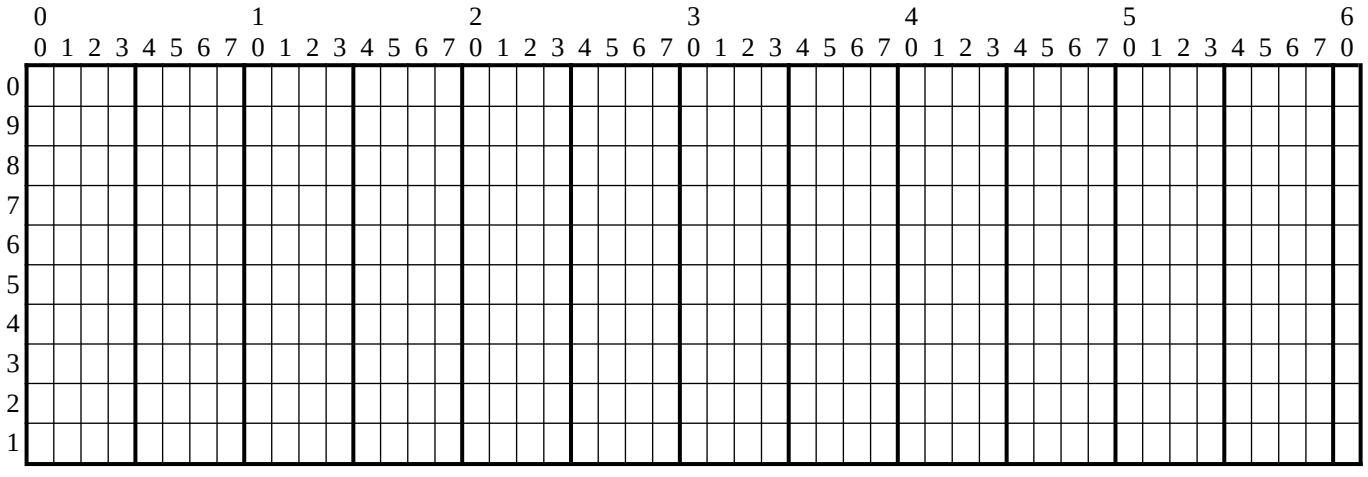
©2025 Chris Nielsen – *www.nielsenedu.com*

`Jason.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	80	00
0000090	00	00	00	00	00	00	00	00	00	00	10	03	0F	78	E4	40
00000A0	00	00	78	04	91	05	14	40	00	00	14	00	8F	39	14	40
00000B0	00	00	39	F0	81	41	16	5F	00	00	50	00	8E	38	E5	80
00000C0	00	00	3C	00	80	00	00	00	00	00	10	01	C0	00	00	00
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number

	0	1	2	3	4	5	6	7
10								
9								
8								
7								
6								
5								
4								
3								
2								
1								



Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.	

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

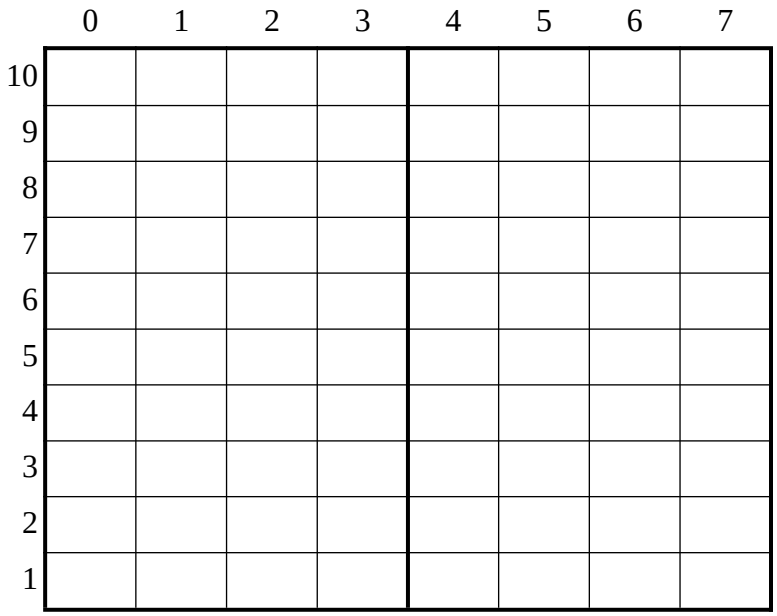
Worksheet: Reading a Bitmap File

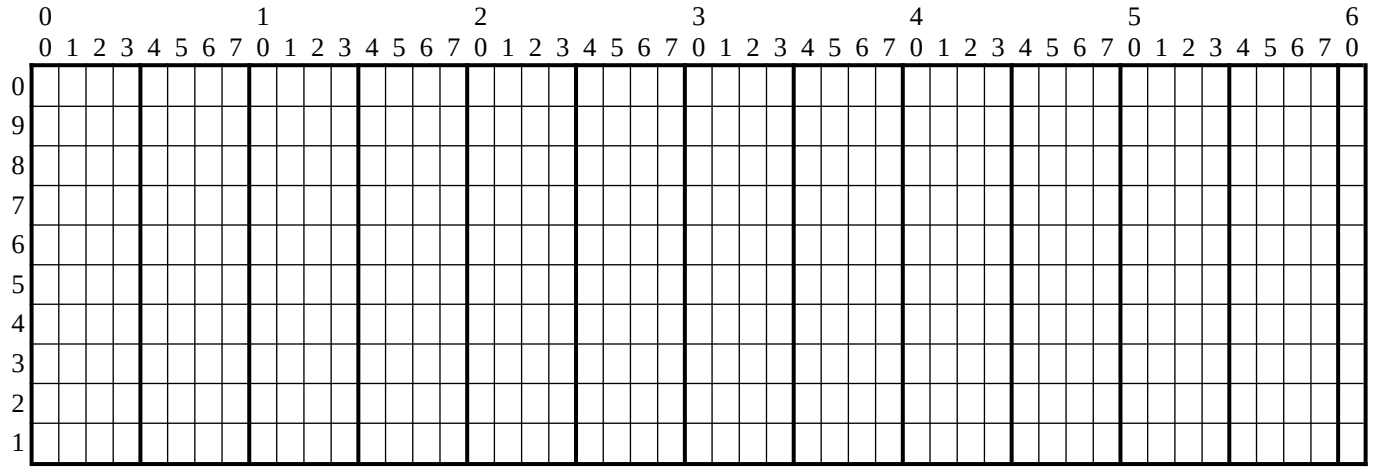
©2025 Chris Nielsen – *www.nielsenedu.com*

`Jerry.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	FF	FF
0000090	00	00	00	00	00	00	00	00	00	00	7C	C3	90	40	E7	C4
00000A0	00	00	01	24	10	40	10	1E	00	00	00	27	D0	40	F0	05
00000B0	00	00	00	24	59	65	10	0E	00	00	00	23	96	59	10	14
00000C0	00	00	00	20	00	00	00	0F	00	00	00	70	00	00	00	04
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.		

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

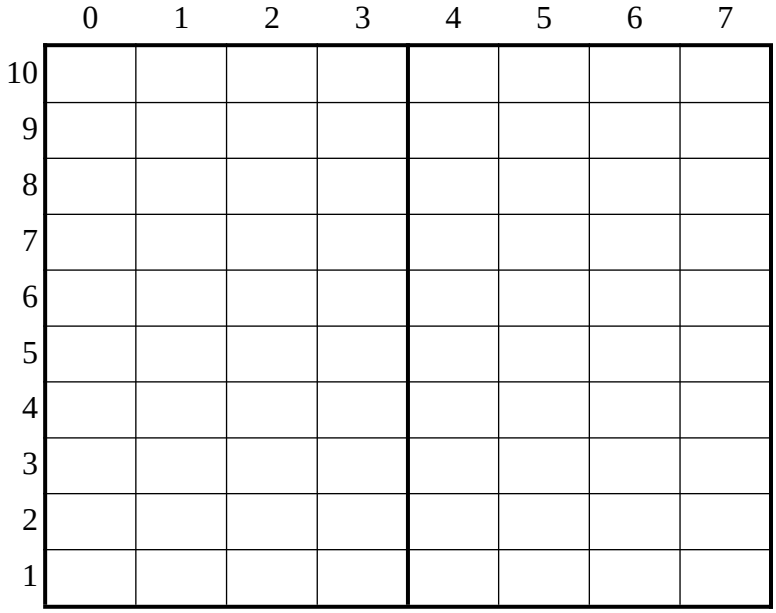
Worksheet: Reading a Bitmap File

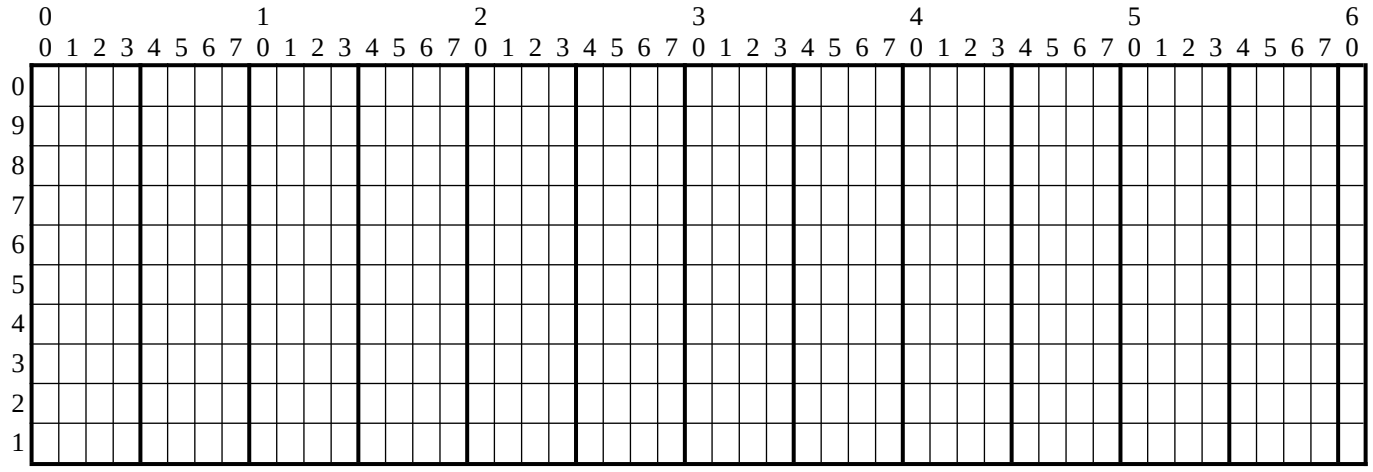
©2025 Chris Nielsen – *www.nielsenedu.com*

`Jesse.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	00	FF	00	00	80
0000090	80	00	00	00	00	00	00	00	00	00	38	03	0E	79	E3	80
00000A0	00	00	40	04	90	04	14	00	00	00	5C	00	9F	38	E7	C0
00000B0	00	00	55	F0	91	41	04	55	00	00	5C	00	8E	38	E3	8A
00000C0	00	00	44	00	80	00	00	00	00	00	38	01	C0	00	00	00
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.	

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

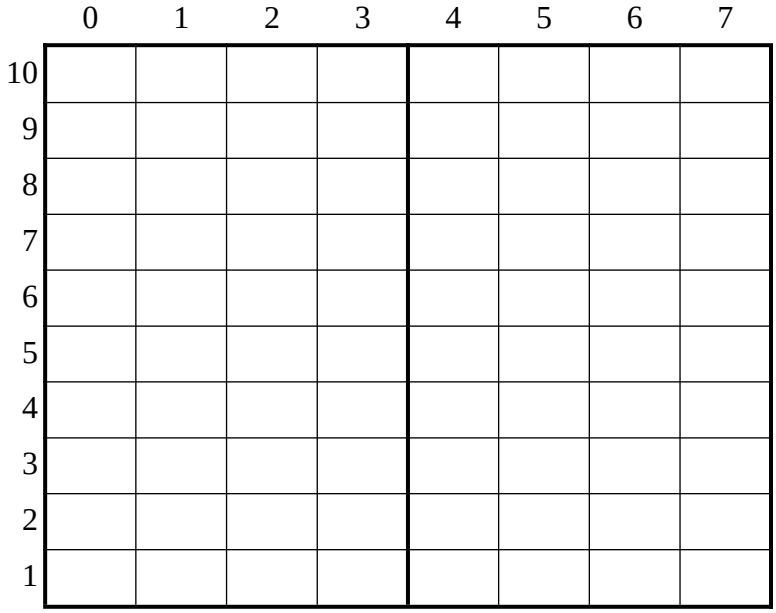
Worksheet: Reading a Bitmap File

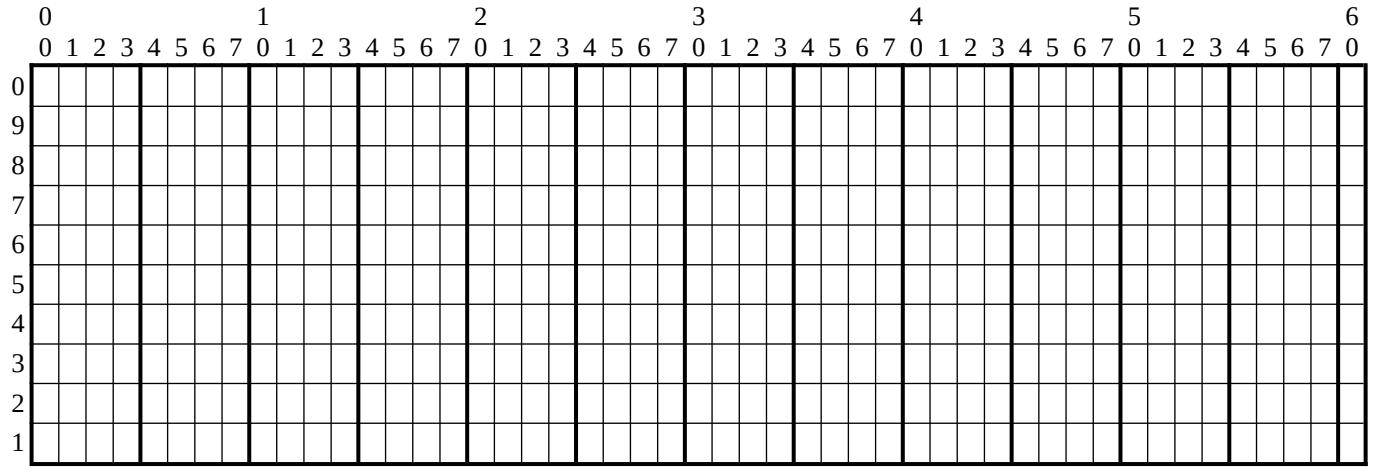
©2025 Chris Nielsen – *www.nielsenedu.com*

John.bmp

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	80	00	00	FF	00
0000090	FF	00	00	00	00	00	00	00	00	00	04	03	0E	45	10	10
00000A0	00	00	08	04	91	45	10	08	00	00	10	00	91	45	10	04
00000B0	00	00	21	F0	91	65	97	C2	00	00	10	00	8E	59	60	04
00000C0	00	00	08	00	80	40	00	08	00	00	04	01	C0	40	00	10
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

Worksheet: Reading a Bitmap File

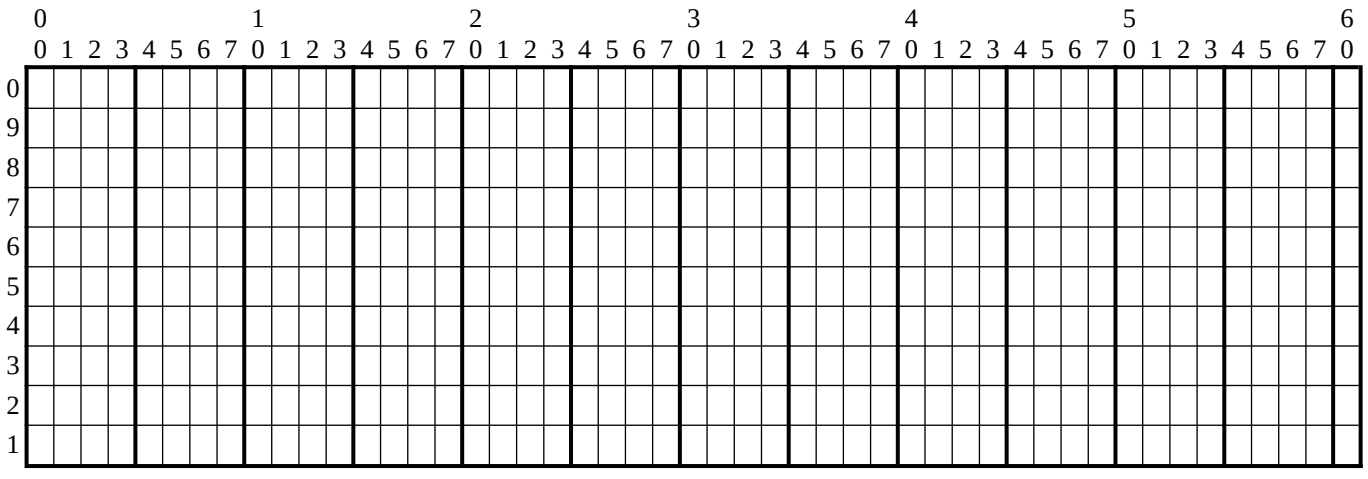
©2025 Chris Nielsen – *www.nielsenedu.com*

`Mike.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	FF	00	FF	00	00	FF
0000090	FF	00	00	00	00	00	00	00	00	00	40	04	4E	48	E0	10
00000A0	00	00	20	04	44	51	00	08	00	00	10	04	44	61	F0	04
00000B0	00	00	09	F5	44	51	17	C2	00	00	10	05	4C	48	E0	04
00000C0	00	00	20	06	C0	40	00	08	00	00	40	04	44	40	00	10
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number

	0	1	2	3	4	5	6	7
10								
9								
8								
7								
6								
5								
4								
3								
2								
1								



Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

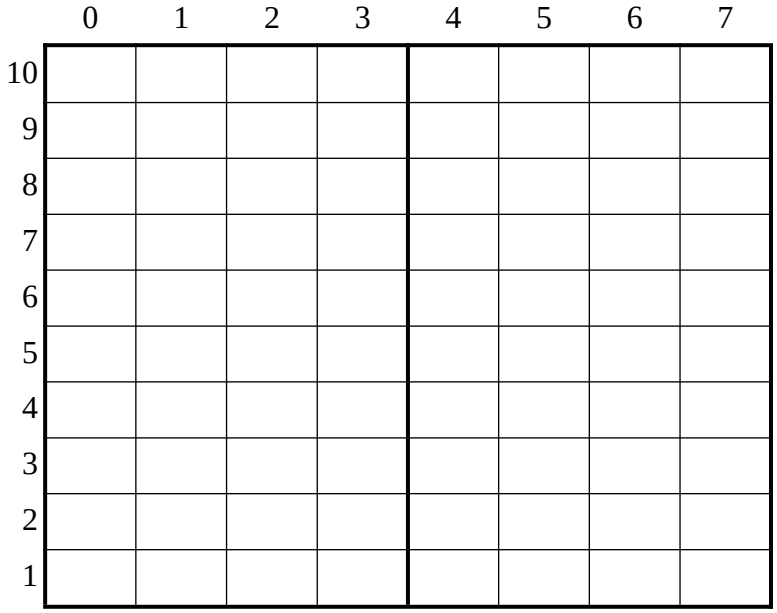
Worksheet: Reading a Bitmap File

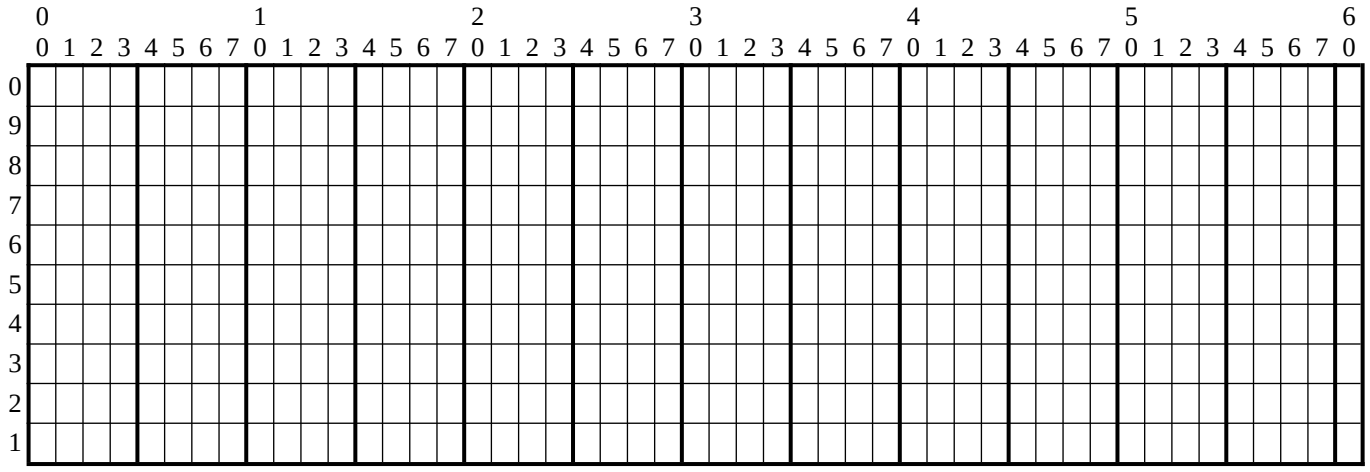
©2025 Chris Nielsen – *www.nielsenedu.com*

`Nick.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	80	00
0000090	00	00	00	00	00	00	00	00	00	00	04	04	4E	39	20	01
00000A0	00	00	08	04	C4	45	40	02	00	00	10	04	C4	41	80	04
00000B0	00	00	21	F5	44	41	47	C8	00	00	10	06	4C	39	20	04
00000C0	00	00	08	06	40	01	00	02	00	00	04	04	44	01	00	01
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2. a) Write the first two bytes of the file in hexadecimal format.

   b0 Convert these two bytes to their ASCII equivalent.

3. a) Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.

4. a) Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).

5. a) Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.

   b) Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).

6. a) Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.

	hexadecimal	denary
width		
height		

7. a) Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.

8. a) Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

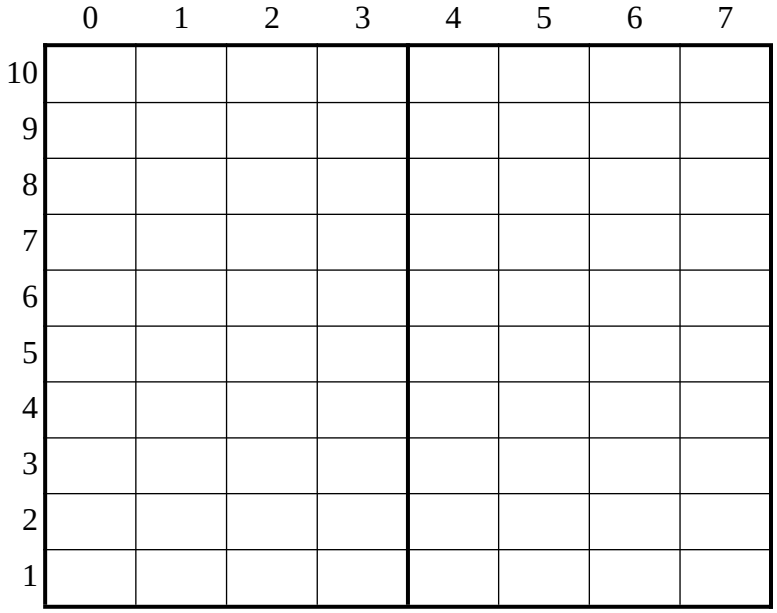
Worksheet: Reading a Bitmap File

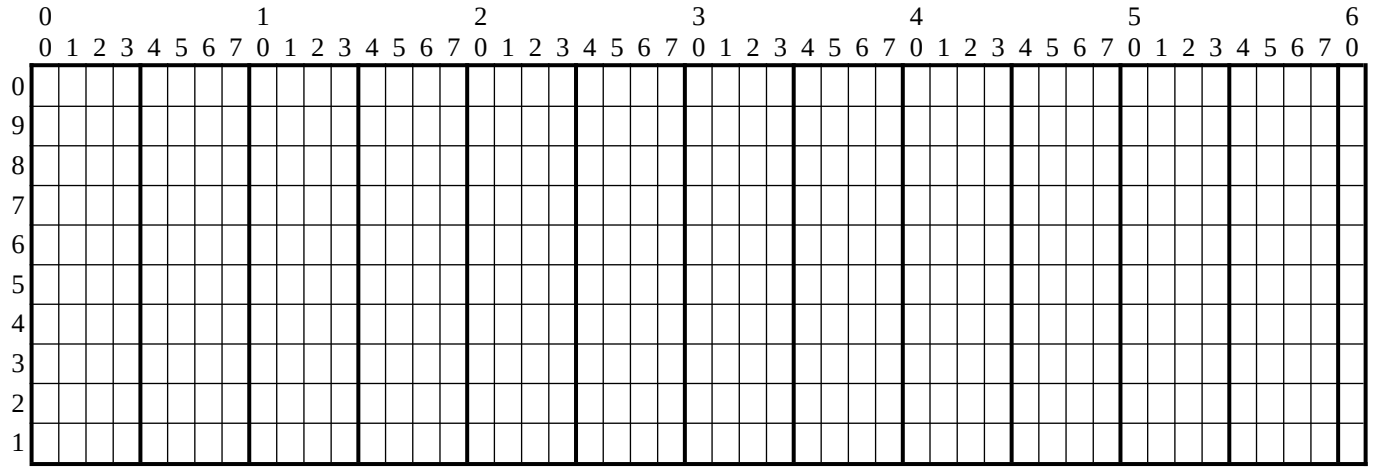
©2025 Chris Nielsen – *www.nielsenedu.com*

`Paul.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	00	FF	00	00	FF
0000090	FF	00	00	00	00	00	00	00	00	00	29	F4	0F	34	E7	CA
00000A0	00	00	28	04	11	4C	40	0A	00	00	7C	04	0F	44	40	1F
00000B0	00	00	28	07	81	44	40	0A	00	00	7C	04	4E	44	40	1F
00000C0	00	00	28	04	40	00	40	0A	00	00	28	07	80	00	C0	0A
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number





Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

1. Fill in the bytes of the bitmap file header according the hexadecimal dump of your `bmp` file.

byte	0	1	2	3	4	5	6	7	8	9	A	B	C	D
use	signature		file size				reserved1		reserved1		file offset to pixel array			
data														

2.	a)	Write the first two bytes of the file in hexadecimal format.		
	b0	Convert these two bytes to their ASCII equivalent.		

3.	a)	Find the 4 bytes in the bitmap file header that represents the file length, and write the length of the file as an 8-digit hexadecimal number. Remember to convert from little-endian. Check that the length value corresponds correctly to the length of the file.	

4.	a)	Find the 4 bytes in the bitmap file header that represents the offset of the *image data pixel array*, and write this value as an 8-digit hexadecimal number. (Again, convert from little-endian).	

5.	a)	Find the start of the DIB header and write the value of the DIB header size as an 8-digit hexadecimal.	
	b)	Convert the value in part (a) to a decimal value and confirm that it is the correct length (either 40 or 124).	

				hexadecimal	denary
6.	a)	Find the image height and image width fields of the DIB header and write their values – first as an 8-digit hexadecimal number, then convert to denary.	width		
			height		

7.	a)	Find the number of *bits per pixel* in the DIB header and write the value first as a 4 digit hexadecimal number, then converted to denary.	

8.	a)	Find the compression method field of the DIB header and write the value as an 8-digit hexadecimal number.	

9. Fill in the four bytes that make up each color from the color table, then look up the HTML/CSS named color that corresponds to the RGB portion.

File offset	**index**	**ARGB hexadecimal**				**Named Color (HTML/CSS)**

Worksheet: Reading a Bitmap File

©2025 Chris Nielsen – *www.nielsenedu.com*

`Selena.bmp`

Address of Leftmost Byte	Least Significant Nibble of Address: 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000000	42	4D	DA	00	00	00	00	00	00	00	92	00	00	00	7C	00
0000010	00	00	32	00	00	00	09	00	00	00	01	00	01	00	00	00
0000020	00	00	48	00	00	00	13	0B	00	00	13	0B	00	00	02	00
0000030	00	00	02	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	00	00	00	00	00	00	42	47	52	73	00	00	00	00	00	00
0000050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	FF
0000090	00	00	00	00	00	00	00	00	00	00	39	E3	8E	39	13	CE
00000A0	00	00	40	14	04	41	14	50	00	00	5C	17	C4	7D	13	D7
00000B0	00	00	54	E4	44	45	90	55	00	00	5D	03	84	39	63	97
00000C0	00	00	45	00	04	00	00	11	00	00	38	F0	0C	00	00	0E
00000D0	00	00	00	00	00	00	00	00	00	00						

Byte Number