Umrechnen zwischen Zahlensystemen

# DUAL <-> HEXADEZIMAL <-> DEZIMAL

## Hex

ABC16 =

|  |  |  |
| --- | --- | --- |
| A | B | C |
| 10 8421 | 11 8421 | 12 8421 |
| 1010 | 1011 | 1100 |

10\*162 + 11\*161 + 12\*160 = 274810

= 1010 1011 11002

10116 =

|  |  |  |
| --- | --- | --- |
| 1 | 0 | 1 |
| 1 8421 | 0 8421 | 1 8421 |
| 0001 | 0000 | 0001 |

1\*162 + 0\*161 + 1\*160 = 25710

= 1 0000 00012

9AD =

|  |  |  |
| --- | --- | --- |
| 9 | A | D |
| 9 8421 | 10 8421 | 13 8421 |
| 1001 | 1010 | 1101 |

9\*162 + 10 \* 161 + 13\*160 = 247710

= 1001 1010 11012

1616 =

1\*161 + 6\*160 = 2210

|  |  |
| --- | --- |
| 1 | 6 |
| 1 8421 | 6 8421 |
| 0001 | 0110 |

= 1 01102

B54316 =

|  |  |  |  |
| --- | --- | --- | --- |
| B | 5 | 4 | 3 |
| 11 8421 | 5 8421 | 4 8421 | 3 8421 |
| 1011 | 0101 | 0100 | 0011 |

11\*163 + 5\*162 + 4\*161 + 3\*160 = 4640310

= 1011 0101 0100 00112

## Bin

1001 00012 =

1\*27 + 0\*26 + 0\*25 + 1\*24 + 0\*23 + 0\*22 + 0\*21 + 1\*20 = 14510

|  |  |
| --- | --- |
| 1001 | 0001 |
| 9 | 1 |

= 9116

1010 10102 =

1\*27 + 0\*26 + 1\*25 + 0\*24 + 1\*23 + 0\*12 + 1\*21 + 0\*20 = 17010

|  |  |
| --- | --- |
| 1010 | 1010 |
| A | A |

= AA16

100112 =

|  |  |
| --- | --- |
| 0001 | 0011 |
| 1 | 3 |

1\*24 + 0\*23 + 0\*22 + 1\*21 + 1\*20 = 1310  
  
  
= 1316

1011112 =

|  |  |
| --- | --- |
| 0010 | 1111 |
| 2 | 15 |

1\*25+0\*24+1\*23+1\*22+1\*21+1\*20 = 4710  
  
  
  
= 2F16

1110 0001 1110 11002 =

1\*215+1\*214+1\*213+0\*212+0\*211+0\*210+0\*29+1\*28+1\*27+1\*26+1\*25+0\*24+1\*23+1\*22+0\*21+0\*20 = 5783610

|  |  |  |  |
| --- | --- | --- | --- |
| 1110 | 0001 | 1110 | 1100 |
| 14 | 1 | 14 | 12 |

= E1EC

## Dez

306 =

306 / 2 = 153 0  
153 / 2 = 76 1  
76 / 2 = 38 0  
38 / 2 = 19 0  
19 / 2 = 9 1  
9 / 2 = 4 1  
4 / 2 = 2 0  
2 / 2 = 1 0  
1 / 2 = 0 1 = 1 0011 00102

306 / 16 = 19 2  
19 / 16 = 1 3  
1 / 16 = 0 1 = 13216

128 =

128 / 2 = 64 0  
64 / 2 = 32 0  
32 / 2 = 16 0  
16 / 2 = 8 0  
8 / 2 = 4 0  
4 / 2 = 2 0  
2 / 2 = 1 0  
1 / 2 = 0 1 = 1000 00002

128 / 16 = 8 0  
8 / 16 = 0 8 = 8016

255 =

255 / 2 = 127 1  
127 / 2 = 63 1  
63 / 2 = 31 1  
31 / 2 = 15 1  
15 / 2 = 7 1  
7 / 2 = 3 1  
3 / 2 = 1 1  
1 / 2 = 0 1 = 1111 11112

255 / 16 = 15 15  
15 / 16 = 0 15 = FF16

1025 =

1025 / 2 = 512 1  
512 / 2 = 256 0  
256 / 2 = 128 0  
128 / 2 = 64 0  
64 / 2 = 32 0  
32 / 2 = 16 0  
16 / 2 = 8 0  
8 / 2 = 4 0  
4 / 2 = 2 0  
2 / 2 = 1 0  
1 / 2 = 0 1 = 100 0000 00012

1025 / 16 = 64 1  
64 / 16 = 4 0  
4 / 16 = 0 4 = 40116

205 =

205 / 2 = 102 1  
102 / 2 = 51 0  
51 / 2 = 25 1  
25 / 2 = 12 1  
12 / 2 = 6 0  
6 / 2 = 3 0  
3 / 2 = 1 1  
1 / 2 = 0 1 = 1100 11012

205 / 16 = 12 13  
12 / 16 = 0 12 = CD16