

- $101_2 = 5$   
 $4 + 1 = 5$
- $1010101_2 = 85$   
 $64 + 16 + 4 + 1 = 85$
- $0101010_2 = 42$   
 $32 + 8 + 2 = 42$
- $11111111_2 = 255$
- $1100110011001101_2 = 52,429$   
 $32768 + 16384 + 2048 + 1024 + 128 + 64 + 8 + 4 + 1 = 52,429$
- $1111111111111111111_2 = 1,048,575$   
 $524288 + 262144 + 131072 + 65536 + 32768 + 16384 + 8192 + 4096 + 2048 + 1024 + 512 + 256 + 128 + 64 + 32 + 16 + 8 + 4 + 2 + 1 = 1,048,575$
- $111100001111_2 = 3,855$   
 $2048 + 1024 + 512 + 256 + 8 + 4 + 2 + 1 = 3,855$
- $100000000000_2 = 2,048$
- $101010111100110111101111_2 = 11,259,375$   
 $8388608 + 2097152 + 524288 + 131072 + 65536 + 32768 + 16384 + 2048 + 1024 + 256 + 128 + 64 + 32 + 8 + 4 + 2 + 1 = 11,259,375$
- $5421_{10} = 101101001010$   
 $5421 / 2 = 2710 \quad R 1$   
 $2710 / 2 = 1355 \quad R 0$   
 $1355 / 2 = 677 \quad R 1$   
 $677 / 2 = 338 \quad R 1$   
 $338 / 2 = 169 \quad R 0$   
 $169 / 2 = 84 \quad R 1$   
 $84 / 2 = 42 \quad R 0$   
 $42 / 2 = 21 \quad R 0$   
 $21 / 2 = 10 \quad R 1$   
 $10 / 2 = 5 \quad R 0$   
 $5 / 2 = 2 \quad R 1$   
 $2 / 2 = 1 \quad R 0$
- $80_{10} = 000010$   
 $80 / 2 = 40 \quad R 0$   
 $40 / 2 = 20 \quad R 0$

$20 / 2 = 10$	R 0
$10 / 2 = 5$	R 0
$5 / 2 = 2$	R 1
$2 / 2 = 1$	R 0

- $12345_{10} = 1001110000001$ 

$12345 / 2 = 6172$	R 1
$6172 / 2 = 3086$	R 0
$3086 / 2 = 1543$	R 0
$1543 / 2 = 771$	R 1
$771 / 2 = 385$	R 1
$385 / 2 = 192$	R 1
$192 / 2 = 96$	R 0
$96 / 2 = 48$	R 0
$48 / 2 = 24$	R 0
$24 / 2 = 12$	R 0
$12 / 2 = 6$	R 0
$6 / 2 = 3$	R 0
$3 / 2 = 1$	R 1

- $15_{10} = 111$ 

$15 / 2 = 7$	R 1
$7 / 2 = 3$	R 1
$3 / 2 = 1$	R 1

- $65535_{10} = 11111111111111$ 

$65535 / 2 = 32767$	R 1
$32767 / 2 = 16383$	R 1
$16383 / 2 = 8191$	R 1
$8191 / 2 = 4095$	R 1
$4095 / 2 = 2047$	R 1
$2047 / 2 = 1023$	R 1
$1023 / 2 = 511$	R 1
$511 / 2 = 255$	R 1
$255 / 2 = 127$	R 1
$127 / 2 = 63$	R 1
$63 / 2 = 31$	R 1
$31 / 2 = 15$	R 1
$15 / 2 = 7$	R 1
$7 / 2 = 3$	R 1
$3 / 2 = 1$	R 1

- $32767_{10} = 11111111111111$ 

$32767 / 2 = 16383$	R 1
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$16383 / 2 = 8191$	R 1
$8191 / 2 = 4095$	R 1
$4095 / 2 = 2047$	R 1
$2047 / 2 = 1023$	R 1
$1023 / 2 = 511$	R 1
$511 / 2 = 255$	R 1
$255 / 2 = 127$	R 1
$127 / 2 = 63$	R 1
$63 / 2 = 31$	R 1
$31 / 2 = 15$	R 1
$15 / 2 = 7$	R 1
$7 / 2 = 3$	R 1
$3 / 2 = 1$	R 1