

Start with Decimal Number (D#)

Find Largest Base 2 Number (B#)
that divides into D#

Is $D\# \geq B\#$
?

Yes

No

Write down a "1"
 $D\# = D\# - B\#$
 $B\# = B\# / 2$

Write down a "0"
 $B\# = B\# / 2$

Is $B\# = 0$
?

Yes

Stop

Example: $D\# = 144$ Largest Base 2 number that divides 144 ? $B\# = 128$

Is $144 \geq 128$? Yes

Write down a 1

$$D\# = 144 - 128 = 16$$

$$B\# = 128 / 2 = 64$$

Is $64 = 0$? No

Is $16 \geq 64$? No

Write down a 0

$$B\# = 64 / 2 = 32$$

Is $32 = 0$? No

Is $16 \geq 32$? No

Write down a 0

$$B\# = 32 / 2 = 16$$

Is $16 = 0$? No

Is $16 \geq 16$? Yes

Write down a 1

$$D\# = 16 - 16 = 0$$

$$B\# = 16 / 2 = 8$$

Is $8 = 0$? No

Is $0 \geq 8$? No

Write down a 0

$$B\# = 8 / 2 = 4$$

Is $4 = 0$? No

Is $0 \geq 4$? No

Write down a 0

$$B\# = 4 / 2 = 2$$

Is $2 = 0$? No

Is $0 \geq 2$? No

Write down a 0

$$B\# = 2 / 2 = 1$$

Is $1 = 0$? No

Is $0 \geq 1$? No

Write down a 0

$$B\# = 1 / 2 = 0$$

Is $0 = 0$? Yes

Stop

$$144 = 10010000$$